

Index

Note: Page numbers followed by 'b' denote boxes; 'f' refer to Figures; those followed by a 't' refer to Tables.

a

- α-Amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid (AMPA) 64
- Abdominal auscultation 177
- Abdominal effusion 188–189, 234
- Abdominal exploration 192–194, 193f
- Abdominal fluid analysis 182–183, 189, 191–192
- Abdominal focused assessment with sonography for trauma (A-FAST) 38–39, 229, 234, 531–532, 531–532f
- Abdominal infection, shock 21
- Abdominal pain dissemination 186
- Abdominal pain perception 185–186
- Abdominal palpation 177, 186, 203, 218, 402
- Abdominal paracentesis 525, 532–533
- Abdominal radiography
 - acute abdomen 192
 - acute kidney injury 244
 - feline idiopathic cystitis 224
 - gastrointestinal conditions 177–181, 178f, 200–201, 205, 208
 - gastrointestinal emergency surgery 551–552
 - glomerulonephritis 240
 - hepatobiliary emergency surgery 571
 - reproductive emergency surgery 576, 577, 577f
 - ureteral obstruction 231
 - urethral obstruction 226, 228
 - urinary emergency surgery 561
- Abdominal ultrasound
 - acute abdomen 192
 - acute kidney injury 244
 - cardiogenic arterial thromboembolism 164
 - chronic kidney disease 231
 - feline idiopathic cystitis 224
 - gastrointestinal conditions 181, 201
 - gastrointestinal emergency surgery 552–553, 553f
 - glomerulonephritis 240
 - hepatobiliary emergency surgery 571
 - reproductive emergency surgery 577
 - ureteral obstruction 230
 - urinary emergency surgery 561
 - urologic emergencies 216–217, 561
 - uroperitoneum 235
- Abdominal wall hernia 584, 587
- Abdominocentesis 182, 188–189, 525, 532–533, 561
- Abducens nerve 255
- Abortion 412–413
- Abscesses
 - dermatologic emergencies 453, 455, 459–460, 472
 - hepatobiliary emergency surgery 570
 - reconstructive emergency surgery 582–586
- AC *see* activated charcoal
- Accidents, brain 278–279
- ACE *see* Angiotensin Converting Enzyme inhibitors
- ACE inhibitors 49, 153–154, 157–161, 216, 239–242, 246, 380
- Acepromazine 44, 57, 165, 494, 505–507, 549
- Acetaminophen toxicity 483–484, 483b
- Acetylcholine neurotransmission 490–491, 490f
- N-acetylcysteine 139, 198
- Acetylsalicylic acid 69, 70t
- Acid–base disturbances 248–249
- Acid–base status 167, 223, 226, 234, 237, 361
- Acid–base therapy 358–359
- Acidosis 211–212, 214, 231–232, 234, 238–240, 244, 248–249, 425
 - acute kidney injury 244, 249–250
 - environmental emergencies 510–511, 513, 516, 523
 - gastrointestinal emergencies 553, 562
 - ketoacidosis 351, 353–364, 359b
 - pediatric emergencies 425
 - toxicological emergencies 488, 494–496, 504, 506
 - urologic emergencies 211–212, 214, 231–232, 234, 238–240
- Acids, toxicity 482–484, 488–489, 492–498
- Acne 470–471
- ACTH *see* adrenocorticotrophic hormones
- Activated charcoal (AC) 481–482, 487–489, 494, 498, 500, 503–507
- Activated clotting time (ACT) 142, 304–307, 311, 486, 511
- Activated partial thromboplastin time tests (APTT) 165–166, 304–307, 317–319, 486
- Active rewarming 513–515, 516
- Acupuncture 405
- Acute abdomen, general approach to 185–194
 - abdominal exploration 192–194, 193f
 - analgesia 193–194
 - biochemical analysis 191–192
 - causes 186b
 - chemical fluid analysis 189, 191–192
 - cytology 189, 191
 - diagnostics 185–194
 - differential diagnosis 185–186
 - effusion 188–189, 191–192
 - flow charts 193–194, 194f
 - fluid analysis 189, 191–192
 - fluid therapy 187–188
 - imaging 192–193
 - nutritional support 194
 - perception of pain 185–186
 - peritoneal lavage 188–189, 190f
 - physical examinations 186–187, 192–193, 193f
 - stabilization procedures 187–188
 - undiluted abdominal effusion 191–192
 - unique features in cats 185
- Acute blindness 443–445, 444b, 444–446f
- Acute chronic kidney disease 231, 236–239

- Acute diarrhea 202
- Acute idiopathic polyneuropathy 297
- Acute kidney injury (AKI) 243–251
- chemistry profiles 244
 - clinical signs 243
 - diagnostics 243–246
 - etiology 245–246
 - gastrointestinal sequelae 247–248, 247t
 - grading criteria 245, 245t
 - history 243–244
 - monitoring 247
 - pathophysiology 245
 - physical examinations 243–244
 - prognosis 251
 - treatments 246–251
 - unique features in cats 243
- Acute pain analgesia 64
- Acute renal failure 156, 243, 339, 391, 495–496, 520
- Acute stress 541–543
- Acute vomiting 200
- S-adenosylmethionine 199
- Adhesions 559
- Adjunctive agents 66, 68–72, 70t, 71t
- Adjunctive immunosuppressive therapy 331–332
- Adrenalectomy 372
- Adrenocorticotrophic hormones (ACTH) 64–65, 367–368, 370–372
- Advanced heart failure 160
- Advanced life support (ALS) 9, 11–13, 12b
- AED *see* anti-epileptic drug therapy
- Aelurostrongylus* 121–122, 139, 141
- A-FAST *see* abdominal focused assessment with sonography for trauma
- Afterdrop 514
- Agglutination tests 326–327
- Aglepristone 408
- AID *see* anemia of inflammatory disease
- Air bronchograms 133f
- Air embolism 218–219
- Airflow, lower airway diseases 120
- Air trapping 95, 120–121, 124
- Airway access/management
- anesthesia 42, 48–49, 49t, 60–61, 60t
 - cardiopulmonary resuscitation 9–11, 13
 - lower airway diseases 120
- AKI *see* acute kidney injury
- Alarm pheromones 544
- Albumin 181–182, 241, 382–383, 417–419, 516–517
- Albuterol 98–99, 125–129, 248, 378
- Alcohol dehydrogenase 249, 494–496
- Aldosterone 367–368, 370–371, 373
- Alfaxan® Multidose 59–60
- Alkaline phosphatase (ALP) 205–207, 352, 418, 510
- Alkalosis, toxicity 492–493
- Alkylphenol derivatives 45
- Allergies, dermatologic 453–467, 470–475
- Allium* species 484
- Allodynia pain 63, 64
- Alopecia 454, 454f, 457–459, 457f, 463–471, 468f, 473t, 475t
- ALP *see* alkaline phosphatase
- Alpha-₂ agonists 13–14, 44, 49, 57, 66, 70, 197
- Alpha-receptor antagonists 232
- ALS *see* advanced life support
- Aluminum carbonate 392
- Aluminum hydroxide 392
- Alveolar air trapping 120
- Amantadine 70, 290
- Ambulation 253–254, 256, 283–284, 285t
- American Society of Anesthesiologists (ASA) 33–34, 34t, 55
- Amikacin 136
- Aminoglycosides 136, 236, 246, 249, 410, 419, 475
- Aminophylline 136, 141–142, 502
- Amiodarone 9, 10b, 12, 14t, 15
- Amitriptyline 232–233, 290
- Amoxicillin 197, 290, 460, 472
- Amoxicillin-clavulanic acid
- dermatologic emergencies 460, 462–464, 469, 472
 - hematologic emergencies 345
 - ocular emergencies 436–437, 442–443, 446–449
 - reproductive emergencies 408–410, 579
- AMPA *see* α-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid
- Amphetamines 271, 273, 277, 484–485
- Amphotericin B 136, 141
- Ampicillin
- acute kidney injury 250
 - gastrointestinal conditions 197, 205, 207, 209
 - neurologic emergencies 274, 279
 - parenchymal disease 136, 141
 - reproductive emergencies 410
 - sepsis 410
 - shock 23
- Ampicillin-clavulanate 141
- Amputation 585–586, 588–589, 588f
- Analgesia
- acute abdomen 193–194
 - cardiogenic arterial thromboembolism 164, 165
 - coccygeal epidural 525, 535–537
 - critically ill cats 63–72
 - feline idiopathic cystitis 225
 - ophthalmic emergency surgery 595
 - snakebites 518
 - spinal cord 290
 - urinary emergency surgery 567
- Anal tone 284, 285t
- Anaphylactic shock 21
- Anaphylaxis 435–436, 520
- Anastomosis 551, 554–559, 557f, 573
- Ancylostoma* 180f
- Anemia
- acute kidney injury 250–251
 - babesiosis 334–335
 - bone marrow examinations 323, 327, 336, 336f, 343–349
 - chronic blood loss 342–343
 - chronic kidney disease 238
 - clinical examinations 324–327
 - clinical signs 328–330
 - cytauxzoonosis 335–336, 336f
 - definitions 323
 - diagnostics 323–349
 - erythropoiesis 343–344
 - feline leukemia virus 323–330, 333–348
 - Heinz bodies 336–338, 338f
 - hematologic emergencies 323–349
 - hemobartonellosis 333–334, 333f
 - hemoglobin 323, 325, 332, 335–341, 344
 - hemolysis 323–341, 328f, 329t, 348
 - hemorrhage 323–342, 328f, 329t, 341–348
 - history 324–325
 - hypophosphatemia 340–341
 - intramarrow disorders 345–349
 - methemoglobinemia 338–339
 - monitoring 323–324
 - neoplasia 347–348
 - pediatric emergencies 422–423
 - physical examinations 325
 - renal failure 344–345
 - severe drug-induced Heinz bodies 337–338, 338f
 - severity 327, 329t
 - stabilization 323–324
 - tests 325–327
 - toxins 339–340
 - treatments 330–349
 - unique features in cats 323
 - zinc toxicity 339–340
- Anemia of inflammatory disease (AID) 323, 327, 329
- Anesthesia
- see also specific anesthetic agents*
 - blood pressure 34–36, 41–43, 50, 56, 59–60, 64–67
 - cardiopulmonary resuscitation 13
 - cardiovascular system 34, 36–37, 42, 44–46
 - central nervous system 56–60
 - critically ill patients 33–52
 - airway obstruction 42, 48–49, 49t
 - cardiovascular system 34, 36–37, 42, 44–46
 - diagnostic imaging 38–39
 - fluid therapy 39–40, 47, 50–51
 - gastrointestinal 36–37
 - hematology 37–38
 - hepatic disease 38
 - hypertrophic cardiomyopathy 49–50
 - induction 40, 42–46, 44–45t, 50–52
 - intraoperative monitoring and management 47–52, 47–48t, 51t
 - maintenance 42, 44–45t, 46–47, 50–52
 - management 47–52, 47–48t, 51t

- monitoring 40–43, 41*t*, 43*f*, 47–52, 47–48*t*, 51*t*
- musculoskeletal system 36
- neurologic system 36
- physiologic response 42
- pre-anesthetic evaluations 34
- preparation procedures 39–42
- recovery 42, 47–48, 52
- respiratory system 36, 42–49, 49*t*
- serum biochemical analysis 37–38
- urethral obstruction 51–52
- urinary tract system 51–52
- dystocia 403–404
- healthy cats 55–61
- imaging 38–39
- induction 40, 42–46, 44–45*t*, 50–52, 58–61, 58*t*
- inhalants 60–61, 60*t*
- lower airway diseases 123–124
- ophthalmic emergency surgery 592
- physical examinations 34, 36
- reproductive emergencies 403–404, 578
- respiratory system 36, 42–49, 49*t*, 56–61
- serum biochemical analysis 37–38
- stabilization 39–40
- supportive care 56
- systemically healthy cats 55–61
 - airway management 60–61, 60*t*
 - breathing circuits 61
 - cardiovascular system 56–60
 - complications, minimization 56
 - induction 58–61, 58*t*
 - inhalants 60–61, 60*t*
 - injectable anesthetics 58–60, 58*t*
 - monitoring 56
 - pre-anesthetic considerations 55
 - sedation/sedatives 56–58, 57*t*
 - venous access 59
 - volatile anesthetics 60–61, 60*t*
- unique features in cats 33, 55
- urethral obstruction 227
- vital signs 34, 56
- Anestrus 399
- Angiography 105, 135, 294
- Angiotensin Converting Enzyme (ACE)
 - inhibitors 49, 153–154, 157–161, 216, 239–242, 246, 380
- Animal Poison Control Center (ASPCA) 480
- Animal trauma triage (ATT) score 275
- Anorexia 236, 429
- Antagonistic behavior 542, 542*f*, 546
- Ant bites 519–520
- Antegrade pyelograms 219–220, 220*f*, 231
- Anterior lens luxation 445
- Anterior uveitis 438–440, 439*b*, 439*f*
- Antibiotics (antimicrobials)
 - acute abdomen 187–188
 - acute kidney injury 249–250, 250*t*
 - bacterial cystitis 230
 - drowning/submersion 516
 - gastrointestinal emergency surgery 553
 - heatstroke 511
 - hepatobiliary emergency surgery 571
 - lower airway diseases 127
 - pulmonary parenchymal disease 141
 - reproductive emergency surgery 579
 - respiratory emergencies 97, 97*t*
 - septic pleuritis 103
 - shock 23
 - snakebites 518
 - spinal cord 290
 - ureteral obstruction 231
 - urinary emergency surgery 562
- Anticholinergic therapy 44, 269
- Anticoagulant rodenticides 310–313, 317–318, 485–489, 485*b*, 506
- Anticoagulants
 - anemia 332
 - cardiogenic arterial thromboembolism 166–167
 - toxicological emergencies 485–486, 485*b*
- Anticonvulsants 70, 265–266
- Antidepressants 506–507
- Antidotes, acute kidney injury 249, 249*b*
- Antiemetics 197–198, 200–201, 205–207, 238, 490, 501
- Anti-epileptic drug (AED) therapy 273–274
- Antifungals 111, 136, 138, 466–467, 474–476
- Antihistamines 111, 472, 492
- Anti-inflammatories 290
- Antimicrobials *see* antibiotics
- Antineoplastic agents 385
- Antiprotozoals 140, 299
- Antithrombotic therapy 241, 332
- Antitussives 58
- Antivenins 505, 518–519, 522
- Antivirals 111, 287, 290, 422, 435–436, 449–450
- Anuria 231, 234, 239, 250, 250*t*
- Anxiolytic therapy 165, 225
- Aortic thromboembolism *see* arterial thromboembolism
- Apixaban 166
- Aplastic anemia 345–346
- Apomorphine 481
- Appetite stimulants 91–92
- Applanation tonometry 434
- APTT *see* activated partial thromboplastin time tests
- Arrhythmias
 - acute kidney injury 248
 - anesthesia 49–51, 56
 - bradyarrhythmias 20, 50, 148, 169, 175, 383
 - bradycardias 169–170, 174–175, 175*t*
 - cardiac disease 157, 159–161, 169–175
 - cardiac emergencies 143–149
 - diabetes mellitus 359–361
 - diagnosis 148, 150*f*, 170–175
 - dobutamine 169, 174–175, 175*t*
 - drug tables 173*t*
 - electrocardiograms 169–170, 171*f*
 - electrolyte disorders 379–395
 - evaluations 170
 - history 148
 - lidocaine 169, 172–174, 173*t*
 - life-threatening 159, 169–175
 - mechanisms 169–170
 - neurologic emergencies 277, 299
 - physical examinations 148
 - reproductive emergencies 403, 411
 - shock 20
 - supraventricular tachycardias 146–148, 157, 170–173, 173*f*, 359–360, 389–390
 - tachycardia 169–174, 173*t*
 - trauma 27
 - treatments 148–149, 169, 172–175, 173*t*, 175*t*
 - unique features in cats 169
 - urologic emergencies 233–234
 - vagal maneuvers 169, 172
 - ventricular premature complex 171–172
- Arrhythmogenic right ventricular cardiomyopathy 153, 155
- Arterial blood gas 4, 26, 96, 124, 511, 517, 523
- Arterial blood pressure *see* blood pressure
- Arterial line placement 42, 43*f*
- Arterial thromboembolism 147–148, 163–167
 - analgesic therapy 164, 165
 - anticoagulants 166–167
 - anxiolytic therapy 165
 - cardiac disease 147–148, 163–167
 - cardiopulmonary resuscitation 16
 - clinical signs 163
 - complications 167
 - diagnostics 147, 164
 - differential diagnosis 147
 - glomerulonephritis 240
 - history 147
 - initial assessments 163–164
 - monitoring 147, 165
 - physical examinations 147
 - prognosis 167
 - prophylactic therapies 165–167
 - respiratory function 164
 - secondary to heart disease 163–167
 - sequelae 167
 - spinal cord 288
 - treatments 142, 147–148, 164–167
 - triage 163–164
- ASA *see* American Society of Anesthesiologists
- Ascites, glomerulonephritis 240
- Aseptic peritonitis 208–209
- Aspergillus* sp. 111
- Aspiration pneumonia 132, 133*f*
- Aspirin 136, 504, 504*b*
- Asthma 119–120, 122–129
 - see also* lower airway diseases
 - clinical signs 119–120, 123
 - definitions 119

- Asthma (*cont'd*)
 diagnostics 121–125
 inhalers 127, 127f
 management 123, 125–129, 126t, 127f, 128t
 pathophysiology 120–121
 respiratory patterns 119–120
- Ataxia 253–258, 268–269, 272–279, 286–291, 375–376
- Atelectasis 102, 134, 136, 142
- Atenolol 146, 149, 157–159, 173–174, 368–369
- Atopic dermatitis 453, 469–471, 473
- Atrial fibrillation 149, 159
- Atrioventricular (AV) block 148–150, 149f, 169–174, 360, 395, 487
- Atropine 13–15, 169, 174–175, 295–299, 405, 435–437, 490–491
- ATT *see* animal trauma triage score
- Auscultation
 abdominal 177
 anesthesia 36, 42
 cardiac diseases 153–154, 163–164
 cardiac emergencies 143
 cardiogenic arterial thromboembolism 163
 cardiopulmonary resuscitation 11, 16
 critically ill cats 36, 42
 diabetes mellitus 358, 360, 363
 environmental emergencies 510, 518
 gastrointestinal conditions 177
 lower airway diseases 120
 pulmonary parenchymal disease 132
 respiratory emergencies 94–96, 99, 106
 shock 20
 thoracocentesis 533
 thromboembolism 163–164
 trauma 26
 upper airway disease 109, 110, 120–123
 urologic emergencies 226, 232–234, 237
- Autoimmune skin diseases 468–469
- Autonomic nervous system 293–295, 297
- AV *see* atrioventricular block
- Avulsion 583–585
- Azathioprine 246, 314, 331
- Azithromycin 136, 197
- Azotemia
 acute kidney injury 245
 urinary emergency surgery 560, 562, 567–568
 urologic emergencies 223–226, 229–242
- b**
- Babesiosis 334–335
- Bacteria, urologic emergencies 215
- Bacterial culture
 dermatologic 459, 463–464, 467–468, 471, 473
 gastrointestinal conditions 182–183, 207
 lower airway diseases 125
 reproductive emergencies 412
 septic pleuritis 102
- Bacterial disease
 cystitis 230
 lower airway diseases 122
 nasal pathogens 110
 pneumonia 132, 135, 141
- BAL *see* bronchoalveolar lavage
- Balloon dilation 113
- Ballottement 186–187
- Barbiturates 265–266, 268
- Barrier function compromise 453
- Basic life support (BLS) 9, 11–15, 12b
- Baytril *see* enrofloxacin
- B complex vitamins 369
- Bee stings 519–520
- Behavior changes
 analgesia 65–67
 minimal-stress handling 541–549, 542f, 543f, 548f
- Benzodiazepines 549
 anesthesia 43–45, 47–51, 56, 59
 cardiopulmonary resuscitation 13, 14
 gastrointestinal conditions 207
 neurologic emergencies 265–266, 272–274, 279
 respiratory emergencies 93, 123
 toxicological emergencies 485
- Beta-blockers 124, 149, 157–161, 173, 368, 441
- Bethanechol 291, 299
- Bicarbonate
 acute kidney injury 248–249
 anesthesia 51
 cardiopulmonary resuscitation 12, 14–15
 diabetes mellitus 356–357, 360–361
 hypercalcemia 385
 hyperkalemia 381
 pediatric emergencies 425
 supplementation 79, 360–361, 376, 381–386
 toxicological emergencies 482, 504, 507
 urethral obstruction 227
 urologic emergencies 227, 239
- Bile acids 181, 208–209
- Bile peritonitis 570–572, 574
- Biliary obstruction 570–574
- Bilirubin concentration 183, 192, 214
- Biochemical analysis/tests *see specific tests*
- Biologic toxins 295
- Biomarkers 144
- Biopsies
 acute kidney injury 244
 core biopsies 312–313
 dermatologic 455, 459, 468, 470–471
 glomerulonephritis 240
 lung biopsies 135
 renal biopsies 220, 241, 244
 skin 455, 459, 468, 470–471
 urologic emergencies 220–221
- Bismuth subsalicylate 504
- Bisphosphonates 385
- Bites
 bite wounds 31–32, 453–455, 459–460, 472
 dermatologic emergencies 453–455, 459–460, 472
 insect bites/stings 505, 505b, 509, 519–522
 snakebites 509, 517–519
 toxicological emergencies 505, 505b
 widow spider bites 505, 505b, 509, 521–522
 wound types 31–32
- Black widow spider bites 509, 521–522
- Bladder *see* urinary bladder
- Blastomyces dermatitidis* 122
- Bleeding emergencies 301–320
 causes 301
 clinical examinations 303–304
 clinical signs 301
 diagnostics 301–314
 disseminated intravascular coagulation 301, 308–311, 310–311f, 319
 drug tables 315–316t
 hepatobiliary disease 308, 317–318
 history 303–304
 monitoring 302–303
 mortality 319–320
 neoplasia 308–313, 310–311f
 physical examinations 304
 primary hemostasis 305–306, 308–311
 stabilization 302–303
 tests 304–312, 305t, 306–307f, 309–311f
 thrombocytopenia 301, 304–314, 318–319
 treatments 302–303, 313–314, 317–320
 unique features in cats 301
- Blindness 443–445, 444b, 444–446f
- Blocked cat, pain management 72
- Blood in anterior chambers 447–448, 448f
- Blood collection, acute abdomen 187
- Blood culture 240
- Blood gas analysis
 acute kidney injury 244
 critically ill patients 38
 geriatric emergencies 428
 lower airway diseases 124
 trauma 27
 urethral obstruction 227
- Blood-glucose levels 5, 27, 355–364, 359b
- Blood lactate concentration 27
- Blood pressure
see also hypertension; hypotension
 acute kidney injury 236, 240–250
 anemia 323–324, 332, 340, 345
 anesthesia 34–36, 41–43, 50, 56, 59–60, 64–67
 bleeding 303–304, 308
 critically ill patients 42, 50
 diabetes mellitus 358, 360–363
 emergency room procedures 525, 528–529
 environmental emergencies 515–518, 522–523
 fluid therapy 79–80
 geriatric emergencies 428
 mean arterial 29, 56, 221, 246, 259, 421–425
 neurologic emergencies 258–260, 266, 271–278

- ocular emergencies 444–445, 448
- pediatric emergencies 417, 421–422, 425–426
- reproductive emergencies 404
- respiratory emergencies 101–103
- seizures 272–273
- thromboembolism 164
- toxicological emergencies 479, 487, 501–502
- trauma 25, 27–32
- urologic emergencies 236, 240–250
- Blood products
 - anesthesia 38–40, 47
 - fluid therapy 75–80, 76*t*, 80*t*
 - hematologic emergencies 304, 308, 332
 - neurologic emergencies 259–260
 - shock 24
 - trauma 28–29
- Blood smear evaluation 5–7, 306, 325–326, 326*f*
- Blood tests 181–182
- Blood type 38, 302, 442–443
- Blood urea nitrogen (BUN) 4–6
- BLS *see* basic life support
- BMBT *see* buccal mucosal bleeding time
- Body cavity lavage 514
- Body condition score 34, 36
- Body temperature 42–43
- Body weight 34, 36
- Bone marrow examinations 312–313, 323, 327, 336, 336*f*, 343–349
- Bone mineralization 576, 577
- Bordetella bronchiseptica* 110, 122
- Boric acid 215
- Box inductions 46
- Brachial plexus avulsion 293, 294*t*
- Brachial plexus block 46
- Brachycephalic cats 109
- Bradyarrhythmias 20, 50, 148, 169, 175, 383
- Bradycardias 169–170, 174–175, 175*t*
- Brain emergencies 271–279
 - coma 275
 - diagnostics 271–279
 - differential diagnosis 271, 273–274
 - drug tables 279*t*
 - head trauma 275
 - hepatic encephalopathy 271, 273–274
 - Horner syndrome 278–279
 - intoxicants 275–277
 - rabies 271, 274
 - seizures 271, 272–274
 - sodium abnormalities 277–278
 - stupor 275
 - thiamine deficiency 271, 273–275, 279
 - toxins 271, 273–277
 - treatments 271–279
 - unique features in cats 271
 - vascular accidents 278–279
 - vestibular disease 271, 277–278
 - vitamin B1 deficiency 271, 273–275, 279
- Breathing 93–102
 - loud 94–96
 - prolonged expiration, wheezes, and cough 98–99
 - rapid, shallow with abdominal component and dull sounds 97–98, 98*b*
 - rapid, smooth, shallow with crackles 96–97
 - tidal 124
- Breathing circuits 61
- Breeding season 399
- Bromethalin 267, 271–277, 486–487, 486*b*
- Bronchial asthma 125
- Bronchiectasis 119–121, 125, 129
- Bronchitis
 - see also* lower airway diseases
 - causes 419
 - clinical signs 119–120
 - definition 119
 - diagnostics 121–123, 125
 - management 125–129, 126*f*, 127*f*, 128*t*
 - pathophysiology 120–121
- Bronchodilator therapy 125–129, 126*t*, 128*t*, 141
- Bronchoscopy and bronchoalveolar lavage (BAL) 125
- Brown recluse spider bites 505, 505*b*, 520–521
- Buccal mucosal bleeding time (BMBT) 306–308
- Budesonide 197, 203
- BUN (blood urea nitrogen) 4–6
- Buphthalmos 114, 440
- Bupivacaine 71, 525, 535–537
- Buprenex 165
- Buprenorphine 68, 69*t*, 197, 290, 549
- Burns
 - classification 460–461
 - dermatologic emergencies 460–462
 - electrical injuries/electrocution 522–523
 - reconstructive emergency surgery 583
 - treatments 461–462
- Butorphanol 47–49, 57–58, 68–69, 93–95, 145–146
- Butterfly catheters 526
- C**
- Cabergoline 408
- Caffeine toxicity 502, 502*b*, 502*f*
- Cages
 - minimal-stress handling 543–549
 - oxygen supplementation 530
- Calcitonin 382, 385–386, 392
- Calcium
 - electrolyte disorders 382–386
 - functions of 382
 - homeostasis 382
- Calcium carbonate 383, 388, 392, 411, 570
- Calcium-channel antagonists 385
- Calcium-channel blockers 160, 487
- Calcium chloride 51, 383, 392, 487
- Calcium dihydrates 494–496, 495*f*
- Calcium EDTA 269
- Calcium gluconate 7, 381, 403, 522
- Calcium monohydrates 494–496, 495*f*
- Calcium oxalate crystals 494–496, 495*f*
- Calcium oxalate plants 498
- Calculi 217–218, 225–227, 244, 561–565
- Caloric requirement calculations 91–92
- Campylobacter* 179, 202, 423
- Cannabis sativa* 501
- Canned diets 91
- Capillaria* 121–122, 139, 141
- Capnographs/capnometers 11, 13, 15, 124
- Capstar 463
- Capsule history 3
- Carbamates 268, 295, 490–491, 490*b*
- Carbon monoxide 122, 487–488, 487*b*
- Carboxyhemoglobin 122
- Carcinomatosis 177–178, 178*f*
- Cardiac compressions 424
- Cardiac disease 156–161
 - ACE inhibitors 159
 - advanced heart failure 160
 - algorithms for treatments 158*f*
 - arrhythmias 159, 169–175
 - arterial thromboembolism 147–148, 163–167
 - beta-blockers 159–160
 - calcium-channel blockers 160
 - chronic heart failure 159–160
 - clinical examinations 154–156, 155*f*, 156*f*
 - clinical pathology 154
 - confounding factors 159
 - digoxin 160
 - diuretics 156, 159
 - drug tables 157*t*
 - echocardiograms 155–156, 156*f*
 - electrocardiography 154
 - emergency room procedures 525, 529–530, 534–535
 - heart failure 122, 156–160, 157*t*, 158*f*
 - life-threatening heart failure 156–160, 157*t*, 158*f*
 - lower airway diseases 122
 - management 153–161
 - monitoring 160
 - oxygen supplementation 159
 - pathology 154
 - physical examinations 154
 - pimobendan 160
 - pleurocentesis 156, 159
 - primary diseases 153
 - refractory heart failure 160
 - secondary diseases 153
 - specific cardiac diseases 156–161
 - specific disease management 153–161
 - spironolactone 160
 - systemic thromboembolism 161, 161*f*
 - thoracic radiography 154–155, 155*f*
 - treatments 156–160, 157*t*, 158*f*
 - unique features in cats 153
- Cardiac emergencies 143–150
 - arrhythmias 148–149, 150*f*
 - arterial thromboembolism 147–148
 - congestive heart failure 143–147, 146*t*
 - diagnostics and monitoring 143–150

- Cardiac emergencies (*cont'd*)
 - electrocardiography 148–149, 149f
 - emergency room procedures 525, 529–530, 534–535
 - history 143, 147–148
 - Holter monitoring 148
 - imaging 147
 - physical examinations 143–144, 147–148
 - signalment 143
 - tests 144
 - treatments 143–150, 146t
 - unique features in cats 143
- Cardiac massage 405
- Cardiac output heart failure, shock 20
- Cardiac tamponade 525, 534–535
- Cardiac troponin 145, 154
- Cardiogenic arterial thromboembolism (CATE) 163–167
 - analgesic therapy 164, 165
 - anticoagulants 166–167
 - anxiolytic therapy 165
 - clinical signs 163
 - complications 167
 - diagnostics 164
 - imaging 164
 - initial assessments 163–164
 - management 163–167
 - monitoring 165
 - prognosis 167
 - prophylactic therapies 165–167
 - respiratory function 164
 - sequelae 167
 - treatments 164–167
 - triage 163–164
- Cardiogenic pulmonary edema 96–97, 131–135, 138, 142, 265, 510, 515–516
- Cardiogenic shock 19–20, 77
- Cardiomyopathy 153–161
 - see also* cardiac disease; heart failure
 - definition 153
 - dilated 157–160
 - hypertrophic 49–50, 154, 155, 157–160
 - hypertrophic obstructive 155, 157–160
 - restrictive 155, 157–160
 - right ventricular 153, 155
 - unclassified 153, 155, 157–160
 - ventricular 153, 155
- Cardiopulmonary arrests (CPA)
 - see also* cardiopulmonary resuscitation
 - clinical signs/recognition 11
 - precipitating factors 10, 11b
 - prognosis 11
 - unique features in cats 9
- Cardiopulmonary cerebral resuscitation 424–425
- Cardiopulmonary resuscitation (CPR) 9–17, 424–425
 - advanced life support 9, 11–13, 12b, 13
 - basic life support 9, 11–15, 12b
 - cerebral resuscitation 424–425
 - clinical signs/recognition 11
 - CPR supplies and equipment 10b, 10f
 - debriefs 17
 - definitions 9
 - discontinuation 17
 - drug volumes 12b, 14b
 - general recommendations 9–10
 - pediatric emergencies 424–425
 - postcardiac arrest care 9–10, 12b, 15–17
 - precipitating factors 10, 11b
 - prognosis 11
 - return of spontaneous circulation 9, 11–13, 15–17
 - treatments 9, 11–17, 12b
 - unique features in cats 9
- Cardiovascular system
 - anesthesia 34, 36–37, 42, 44–46, 56–60
 - drowning/submersion 515
 - frostbite/hypothermia 513
 - heatstroke 510
 - lower airway diseases 120
 - primary surveys 4
 - thyroid storm 367
 - trauma 26–28
 - waiting room triage 3
- Carnitine 198, 206, 420–421
- Carprofen 69, 70t, 488–489
- Carriers, minimal-stress handling 543–549
- Casts, urologic emergencies 215
- CATE *see* cardiogenic arterial thromboembolism
- Catecholamines 22–23
- Cathartics, toxicological emergencies 482, 482b, 487, 499
- Catheters
 - coccygeal epidural 525, 535–537
 - emergency room procedures 525, 526–527, 535–536
 - gastrointestinal emergency surgery 551, 556–557
 - hepatobiliary emergency surgery 572
 - intravenous 39
 - pediatric emergencies 419
 - placement 419, 525, 535–536
 - ureteral obstruction 231
 - urethral 212–213, 227, 525, 535–537
 - urinary 525, 535–536
 - urologic emergencies 212–213
 - wound-soaker 71–72
- Caudal cranial fossa 272
- Caudectomy 585–586, 588–589, 588f
- Cavitary effusion 367, 370
- CBC *see* complete blood counts
- Cefazolin 410, 436, 462, 472, 553, 585
- Cefotaxime 137, 197
- Cefoxitin 137, 511, 516, 518, 571
- Cefpodoxime 462–464, 469, 472
- Ceftazidime 197
- Ceftriaxone 137
- Cell line evaluations 6–7
- Cellulitis 460
- Central intravenous catheter 13
- Central nervous system (CNS)
 - analgesia 63–64
 - anesthesia 56–60
 - electrolyte disorders 374, 376, 384, 387, 393–395
 - environmental emergencies 509, 512, 523
 - neurologic emergencies 253–270, 271, 291, 295, 299
 - pulmonary parenchymal disease 136, 138–140
 - toxins 267–270, 295, 298, 299, 480, 485–501
- Central parenteral nutrition (CPN) 90–91, 90t
- Central sensitization 64, 69
- Central venous catheters 526
- Central venous pressure (CVP) 4, 187, 421–423, 431, 516, 523, 527
- Central vestibular disease 277
- Cephalexin 97, 410, 462–464, 469, 472
- Cephalosporins 137, 197, 286, 309, 423, 469–472, 553, 562
- Cerebellar disease 254, 258, 272
- Cerebral edema 259, 273–277, 374, 377, 411, 487, 500, 510–511
- Cerebral perfusion 516
- Cerebral perfusion pressure (CPP) 59, 259–261, 425
- Cervical ventroflexion 254
- Cesarean section 401–405, 401b, 403–404, 412, 424, 577–580
- Chamber/box inductions 46
- Charcoal 481–482, 487–489, 494, 498, 500, 503–507
- Chédiak–Higashi syndrome (CHS) 317
- Chelation 269, 340, 389–390, 499
- Chemical fluid analysis 189, 191–192
- Chemical injuries, ocular 445
- Cherry eye 445–446, 446f
- Cheyletiella* 464–465, 465f
- CHF *see* congestive heart failure
- Chlamydia psittaci* 110
- Chlorambucil 197, 203, 241, 331, 469–470, 472
- Chloramphenicol 347, 419
- Chlorhexidine gluconate 197
- Chlorpheniramine 472
- Chlorpromazine 197, 206
- Cholangiohepatitis 206–207, 570–572, 574
- Cholangitis 206–207
- Cholecalciferol toxicity 245, 489–490, 489b
- Cholecystectomy 572, 574
- Cholecystitis 570–571
- Cholecystoduodenostomy 572, 573
- Cholecystoenterostomy 570–574
- Cholecystojejunostomy 572, 573
- Choledochal catheters 572
- Choledochal stenting 570–574, 573f
- Cholesterol 418
- Cholestyramine 482–483
- Cholinergic receptors 268

- Cholinesterase 295
 Cholinesterase-inhibiting insecticides 490–491, 490b
 Chorioretinitis 304, 438–439, 439f, 444
 Chronic blood loss 342–343
 Chronic bronchitis 125–127, 126f, 127–129, 127f, 128t
 Chronic enteropathy 202–203
 Chronic heart failure 159–160
 ACE inhibitors 159
 beta-blockers 159–160
 calcium-channel blockers 160
 digoxin 160
 diuretics 159
 monitoring 160
 pimobendan 160
 spironolactone 160
 treatment 159–160
 Chronic idiopathic rhinosinusitis 111
 Chronic kidney disease (CKD)
 clinical signs 237
 definitions 236
 diagnostics 237
 fluid therapy 237–239
 physical examinations 237
 tests 237
 treatments 237–239
 urologic emergencies 231, 236–241
 Chronic osteoarthritis 72
 Chronic renal disease 212, 215–217, 220, 344–345, 362, 378–380, 391
 Chronic stress 541–543, 543f, 548–549
 Chronic therapy, lower airway diseases 127–129, 128t
 CHS *see* Chédiak–Higashi syndrome
 Chylothorax 104–106
 Chylous effusion 100–101, 105
 Ciliary body inflammation 438–440, 439b, 439f
 Ciprofloxacin 250
 Circumferential compressions 9, 12f, 12b
 Cisapride 196–197, 204, 206, 247
 Citrus oils 491–492
 CKD *see* chronic kidney disease
 Clarithromycin 137
 Clavamox *see* amoxicillin-clavulanic acid
 Clavulanic acid 197
 Cleaning agent toxicity 492–493
 Clearance
 toxicological emergencies 482, 482b
 urologic emergencies 216
 Clindamycin 23, 103, 137, 141, 197, 288, 290, 296, 472
 Clopidogrel 137, 148
Clostridium spp. 180, 298
 Cluster seizures 264
 CNS *see* central nervous system
 Coagulation
 abnormalities in acute kidney injury 251
 assays 38
 geriatric emergencies 428
 hepatobiliary emergency surgery 571
 pediatric emergencies 418
 Coagulometer 305
 Coagulopathy
 emergency room procedures 526–527, 533–534, 537
 environmental emergencies 511–513
 gastrointestinal conditions 311–312
 hepatobiliary disease 571
 respiratory emergencies 96–98
 shock 24, 77
 toxicological emergencies 483–484
 Cobalamin 181
 Cocaine toxicity 265
Coccidioides immitis 122
 Coccygeal epidural 525, 536–537
 Coccygeal trauma 582–583, 588–589
 Codeine 286
 Cold diuresis 513, 515
 Colitis 202
 Colloid solution therapy 56, 75–77, 76t
 Colopexy 204
 Colorado State University Feline Acute Pain Scale 66, 67t
 Coma 258–259, 261, 275
 Comorbid conditions 427
 Complete blood counts (CBC)
 acute kidney injury 244
 anemia 325
 bleeding 312
 critically ill patients 37–38
 gastrointestinal conditions 195
 lower airway diseases 121
 pulmonary parenchymal disease 134–135
 thyroid storm 367
 urethral obstruction 226
 Compressions, cardiac 424
 Computed tomography (CT) 39, 133, 219, 571
 Congenital myotonia 256
 Congestive heart failure (CHF)
 see also cardiac emergencies; heart failure
 diagnostics 143–147
 emergency room procedures 525, 534–535
 monitoring 144–145
 physical examinations 143–144
 pleural effusion 100
 signalment 143
 systemic thromboembolism 161
 treatments 145–147, 146t
 Conjunctivitis 448–449, 448f, 449–450
 Conn's syndrome 367, 370–371
 Conservative therapy 235
 Constant rate infusions (CRI)
 cardiopulmonary resuscitation 14b, 16–17, 17b
 critically ill patients 46, 68–72, 69t, 71t
 fluid therapy 80–81
 pain management 68–72, 69t, 71t
 Constipation 203–204, 525, 538
 Consumption, bleeding 313
 Contaminants *see* toxicological emergencies
 Contrast cystography 218, 225, 235, 561
 Contrast fluoroscopic/radiographic studies 227
 Contrast radiography 552, 584
 Contusion 263
 Cooling therapy 511
 Copperhead bites 517–518
 Copying strategies 541–544, 541–542f, 549
 Coral snake bites 518–519
 Core biopsies 312–313
 Corneal lacerations 446–447, 446f
 Corneal sequestrum 438, 438f
 Corneal ulcers 434–438, 435b, 435–438f, 591, 595
 Coronavirus 287, 422
 Corrosives, toxicology 492–493, 493b
 Corticosteroids
 dermatologic emergencies 468–469, 473–476
 electrolyte disorders 375, 386–387
 environmental emergencies 511, 518
 gastrointestinal conditions 207–208
 hematologic emergencies 315–316, 331, 334, 343, 347
 lower airway disease 124–129
 neurologic emergencies 261–263, 286, 288–289, 297
 ocular emergencies 437–440, 443, 447–450
 shock 23
 toxicological emergencies 489, 492
 upper airway disease 115
 Cortisol 25, 59, 64–65, 355, 370–372
 Cortrosyn 368, 370, 372
 Cottonmouth bites 517–518
 Coughs 110
 CPA *see* cardiopulmonary arrests
 CPN *see* central parenteral nutrition
 C-polymodal fiber (CPM fibers) 185–186
 CPP *see* cerebral perfusion pressure
 CPR *see* cardiopulmonary resuscitation
 Crackles, breathing 96–97
 Cramps, heat 509
 Cranial nerves 254–255, 283
 Cranial vena cava obstruction 105
 Craniectomy 261, 275
 Creatine levels 215–216
 Creatinine
 gastrointestinal conditions 183
 geriatric emergencies 428
 CRI *see* constant rate infusions
 Critically ill cats
 algorithm for 2
 analgesia 63–72
 anesthesia 33–52
 approach to 1–8
 cardiovascular system 36

- Critically ill cats (*cont'd*)
- definitions 33
 - diagnostic imaging 38–39
 - emergency databases 5–7, 5b
 - emergency plans 7–8, 7b
 - fluid therapy 39–40, 47, 50–51
 - nutritional support 83–92
 - pain management 63–72
 - patient preparation 39–40
 - primary surveys 1–2, 4–5, 4b
 - radiography 39
 - respiratory system 36
 - secondary surveys 1–2, 5, 5b
 - serum biochemical analysis 37–38
 - telephone triage 1–2, 2b
 - triage 1–4, 2b, 3
 - unique features 1, 63
 - waiting room triage 2–4, 2b, 3
- Crusting dermatitis 454–455, 458–459, 465–468, 470–471
- Cryptococcus* 111, 122
- Cryptosporidium* 421
- Crystalloid solution therapy 56, 75–78, 76t, 80
- Crystals
- calcium oxalate 494–496, 495f
 - urologic emergencies 215
- CT *see* computed tomography
- Cuff selection and position 528–529
- Cushing's reflex 267, 425
- Cutaneous drug reactions 454–455, 469–470
- Cutaneous trunci reflex 284–285, 285t
- Cuterebra* 122, 278–279
- CVP *see* central venous pressure
- Cyanocobalamin 197
- Cyclosporine
- dermatologic emergencies 469–471, 473
 - gastrointestinal conditions 197
 - hematologic emergencies 314, 315, 331
 - lower airway disease 129
 - ocular emergencies 450
- Cyproheptadine 129, 494, 505–507
- Cystectomy 565, 566f
- Cystic calculi retrieval 561–562
- Cystic duct 572–573
- Cystitis 223–225, 230
- Cystocentesis 213–214, 525, 535
- Cystograms 218–219, 224–225, 229, 235
- Cystoscopy 225
- Cystostomy 562, 564–567, 564f, 566f
- Cysts 570
- Cytauxzoonosis 335–336, 336f
- Cytology
- acute abdomen 189, 191
 - dermatologic emergencies 453, 455–459, 456f, 464–471
 - endotracheal wash 124–125
 - gastrointestinal conditions 179, 182–183, 195, 205–208, 553
 - gastrointestinal emergency surgery 553
 - hepatobiliary emergency surgery 571
 - pulmonary parenchymal disease 135
 - pyometra 406
 - uroperitoneum 235
 - vaginal 399, 400f, 406
- d**
- Dalteparin (Fragmin) 166
- Dapsone 246, 521
- D-dimers 308
- Debridement 298, 420, 435, 437–438, 438f, 446, 460–462, 518
- Decerebellate posture 254, 258, 272
- Decerebrate posture 254, 254f, 272–273, 276, 487
- Decompressive craniectomy 261
- Decontamination, toxicological
- emergencies 480–497, 482b, 501–507
- Deep burn wounds 461–462
- Deep pain sensation 582, 585–586, 589
- Deep ulcers 436
- Defensive behavior 541–546, 542f
- Defibrillation 9, 13, 15, 529–530
- Degenerative intervertebral disk disease 286
- Degloving injuries 462–463
- Dehydration
- conditions requiring fluid therapy 77–79, 78t, 80b
 - diabetic ketoacidosis 357–358
 - pediatric emergencies 417–418, 420–422
- Demodex* 453, 454, 455, 457f, 463
- Demodicosis 457, 465–466, 474
- Dendritic corneal lesions 435
- Dental radiographs 195
- DepoMedrol 127, 128t
- Depressive craniectomy 261
- Dermatitis 453–455, 463–471, 473
- Dermatologic emergencies 453–476
- abscesses 453, 455, 459–460, 472
 - allergies 453–467, 470–475
 - alopecia 454, 454f, 457–459, 457f, 463–471, 468f, 473t, 475t
 - atopic dermatitis 453, 469–471, 473
 - bacterial culture 459, 463–464, 467, 468, 471
 - biopsies 455, 459, 468, 470–471
 - bite wounds 453–455, 459–460, 472
 - burns 460–462
 - clinical signs 453–454, 459–471
 - crusts 454–455, 458–459, 465–468, 470–471
 - cytology 453, 455–459, 456f, 464–471
 - degloving injuries 462–463
 - dermatitis 453–455, 463–471, 473
 - dermatophytosis 453–458, 466–467, 473–475
 - diagnostics 453–471
 - drug reactions 469–470
 - drug tables 472–476t
 - ears 453, 455–459, 464–470, 464f, 473–476
 - ectoparasites 453–456, 454f, 463–465, 470–475
 - eosinophilic granuloma complex
 - lesions 454–455, 454f, 463, 471–475
 - flea combing 453, 455, 463–465
 - fleas 453–455, 454f, 463–465, 473–475
 - food allergies 453–455, 454f, 463–464, 470–471
 - fungal infections 453, 455–460, 457–458f, 466–467, 470–471, 473–476t
 - infections 453–476
 - inflammation 453–456, 461–465, 468–471, 475
 - mites 453–458, 457f, 463–470, 465f, 474t
 - parasitic diseases 453–458, 463–470, 465f, 470–475
 - polymerase chain reactions 458–459, 466
 - pruritus 453–471, 465f, 473t, 475t
 - scaling 454, 457f, 458, 464–468, 465f
 - sensitivity 459, 463–464, 467, 468, 471
 - skin scrapings 453, 456–457, 457f, 464–466, 470–471
 - trauma 453–462, 466–467, 470–472, 475
 - treatments 460–476
 - ulcers 454–455, 454f, 459–461, 467–468
 - unique features in cats 453
- Dermatophyte polymerase chain reaction 458–459, 466
- Dermatophyte test medium 458
- Dermatophytosis 453–458, 466–467, 473–475
- Descemetocoele 436–437
- Desflurane 60
- Desoxycorticosterone pivalate (DOCP) 368, 370, 372
- Detemir insulin 353, 353b
- Dexamethasone 127, 128t
- airway obstruction 49
 - dermatologic emergencies 468–469, 473, 476
 - electrolyte disorders 385, 393
 - endocrine diseases 368–372
 - environmental emergencies 520
 - hematologic emergencies 314, 315, 331
 - lower airway disease 126, 127–128
 - neurologic emergencies 261–263, 286
 - parenchymal disease 137, 141–142
 - respiratory emergencies 49, 98–99
 - shock 23–24
 - toxicological emergencies 487, 500
- Dexamethasone sodium phosphate 23, 49, 126–127, 137, 141–142, 520
- Dexamethasone suppression test 371–372
- Dexmedetomidine 50, 480–481
- Dextran 56, 76, 198, 202, 343
- Dextrose
- acute kidney injury 248
 - anesthesia 51
 - dermatologic emergencies 458, 487
 - diabetes mellitus 355, 358–363
 - electrolyte disorders 377, 381, 390, 394–395

- emergency room procedures 537
 gastrointestinal conditions 204
 hematologic emergencies 340
 neurologic emergencies 265, 272, 279
 nutritional support 89–90
 parenchymal disease 136
 pediatric emergencies 420–422
 reproductive emergencies 403–405
 toxicological emergencies 499, 511
 urologic emergencies 221, 227
- Diabetes mellitus**
 chemistry profiles 352–353
 classification 350–351
 clinical examinations 352, 356, 362
 clinical resolution 354
 clinical signs 352, 356
 complications 351–355, 362
 diagnostics 352–353
 electrolytes 351, 356–364, 360b, 363b
 endocrine diseases 351–364
 fluid therapy 351, 355–364, 360b
 goals of treatment 353–354
 history 352, 356, 362
 hyperglycemia 351–356, 359–363
 hyperglycemic hyperosmolar syndrome 351, 353–354, 362–363
 hypoglycemia 351, 353–355, 358, 361
 insulin 351–364
 insulin overdose 355–362
 management 353–364
 metabolic diseases 351–364
 monitoring 354
 neurologic emergencies 295–296
 nutritional support 354, 361
 pathophysiology 350–351, 355–356, 362
 peripheral nervous system 295–296
 physical examinations 352, 356, 362
 remission 351–352, 353–362
 signalment 352, 356, 362
 tests 352–353
 treatments 353–364
 unique features in cats 351
 urinalysis 352–353
- Diabetic ketoacidosis (DKA)** 351, 353–364, 359b
 clinical signs 356
 history 356
 pathophysiology 355–356
 physical examinations 356
 prognosis 362
 signalment 356
- Dialysis** 221–222, 382, 385
- Diaphragmatic hernia** 106, 582–589, 584f
- Diarrhea** 75–80, 89–91, 136–140, 180–182, 193, 197–199, 202–205
- Diazepam**
 anesthesia 56, 444
 neurologic emergencies 265, 270, 272–277, 279, 295
- nutritional support 91
- respiratory emergencies 95–96, 101
- seizures 272, 274
- spinal cord 291
- thromboembolism 165
- toxicological emergencies 487, 491, 497, 500, 502–503
- DIC** *see* disseminated intravascular coagulation
- Diestrus** 399, 406
- Diet**
see also nutritional support
 diabetes mellitus 354, 361
 pediatric emergencies 421
 types 91–92
- Diffuse alveolar pattern** 97
- Digoxin** 160, 173
- Dilated cardiomyopathy** 101, 153–154, 157–160, 169
- Diltiazem** 146, 149, 157, 172–173, 393
- Diltiazem hydrochloride** 172, 173t
- Diethyl sodium sulfosuccinate** 197
- Diphacinone** 485
- Diphenhydramine** 518, 520
- Dipstick analysis** 214
- Direct blood pressure** 525, 529
- Disk disease** 286
- Disk herniation** 263
- Diskospondylitis** 286–287
- Displacement behavior** 542, 542f
- Disseminated intravascular coagulation (DIC)** 301, 308–311, 310–311f, 319–320
- Dissociative anesthetics** 44, 49, 58–59, 69–70
see also specific agents
- Distress responses/signs** 64, 541–549
- Distributive shock** 21–22, 77
- Diuresis** 80, 249–250, 523
- Diuretics**
 cardiogenic arterial thromboembolism 164
 chronic heart failure 159
 drowning/submersion 516
 glomerulonephritis 239
 hyperkalemia 381–382
 life-threatening heart failure 156
 ureteral obstruction 232
- DKA** *see* diabetic ketoacidosis
- Dobutamine** 23, 169, 174–175, 175t
- DOCP** *see* desoxycorticosterone pivalate
- Dopamine** 23
 anesthesia 47–50, 56
 cardiopulmonary resuscitation 14, 16–17
 heart failure 157–159
 shock 23
 toxicological emergencies 481, 494
- Doppler sphygmomanometry** 525, 528–529
- Dorsal recumbency** 567
- Dorzolamide** 441, 448
- Doxapram** 16, 95, 405, 580
- Doxycycline** 334, 349, 436–437, 446, 448
- D-penicillamine** 269, 499
- Dracaena** 493
- Draining tracts** 455, 459
- Drowning/submersion** 509, 515–517
 clinical signs 515
 definitions 515
 diagnostics 516
 history 515
 monitoring 517
 pathophysiology 515
 physical examinations 515
 prognosis 517
 tests 516
 treatments 142, 516–517
- Drug-induced Heinz bodies** 337–338, 338f
- Drug-induced hyperkalemia** 380
- Drug reactions**
 dermatologic 469–470
 pulmonary parenchymal disease 142
- Drug volumes** 12b, 14b
- Dry drowning** 515
- Dryer injury** 31
- Duloxetine** 493–494
- Dysautonomia** 297–298
- Dysphagia** 109
- Dysphoria** 42, 47–48
- Dystocia** 401–404, 401b, 401–402f, 403b, 576–580
- Dysuria** 223–224, 226, 229, 234
- e**
- Ears** 453, 455–459, 464–470, 473–476
 ear cytology 453, 455–457, 456f, 468
 ear mites 453, 464, 464f, 467, 474
- Eastern coral snake bites** 518–519
- Eccentricocytes** 338, 338f
- ECG** *see* electrocardiography
- Echocardiograms**
 arterial thromboembolism 147, 147f, 164
 cardiac disease 155–156, 156f
 cardiogenic arterial thromboembolism 164
 pleural space disease 101
- Eclampsia** 410–411, 411b
- Ectoparasites** 453–456, 454f, 463–465, 470–475
- Ectopic pregnancy** 412
- Edema**
 cardiogenic pulmonary edema 96–97, 131–135, 138, 142, 265, 510, 515–516
 glomerulonephritis 240
 interstitial alveolar 28
 pulmonary 93, 96–98, 101, 131–135, 138, 142, 265, 510, 515–516
- Edrophonium chloride** 297
- EDTA** 188, 269, 302, 305, 323–326, 333, 340
- Effusion**
see also pleural effusion
 abdominal effusion 188–189, 234–235
 acute abdomen 188–189, 191–192

Effusion (*cont'd*)

- cavitary effusion 367, 370
 - cytology 553, 571
 - gastrointestinal conditions 182, 182*t*
 - hyperkalemia 380
 - pericardial 20, 525
 - peritoneal 553, 571
 - septic 191
 - undiluted abdominal effusion 191–192
 - uroperitoneum 234–235
- EG *see* ethylene glycol
- Ehrlichiosis 348–349
- Electrical defibrillation 9, 13, 15, 529–530
- Electrical injuries/electrocution 509, 522–523
- Electrocardiography (ECG)
- cardiac disease 154
 - cardiac emergencies 148–149, 149*f*
 - cardiopulmonary resuscitation 11–16
 - emergency room procedures 529–530
 - life-threatening arrhythmias 169–170, 171*f*, 174
 - seizures 272–273
 - ureteral obstruction 231
 - urethral obstruction 226
 - uroperitoneum 234
- Electrocution 509, 522–523
- Electrolyte disorders 373–395
- calcium 382–386
 - causes 373–376, 374*t*, 376*t*, 378
 - clinical signs 374–388
 - diagnostics 375–387, 390
 - drug tables 391–395, 392–395*t*
 - hypercalcemia 384–386
 - hyperkalemia 380–382
 - hypermagnesemia 391, 391*b*
 - hyponatremia 375–378
 - hyperphosphatemia 387–388
 - hypokalemia 378–380
 - hypomagnesemia 389–391
 - hyponatremia 373–375
 - hypophosphatemia 386–387
 - magnesium 388–391
 - phosphorous 386–388
 - potassium 378–382
 - sodium 373–378
 - treatments 375–391, 375*t*, 377*b*, 381*b*, 385*b*
 - unique features in cats 373
- Electrolytes
- see also* electrolyte disorders
 - acute kidney injury 248
 - chronic kidney disease 232
 - diabetes mellitus 351, 356–364, 360*b*, 363*b*
 - drowning/submersion 516
 - fluid therapy 75, 79–80, 80*t*
 - hyperglycemic hyperosmolar syndrome 363–364
 - seizures 272
 - urethral obstruction 226

- urologic emergencies 216
- Electronic monitoring plans 8
- Embolectomy 165
- Emergencies
- see also* emergency room procedures
 - cardiac 143–150
 - environmental 509–523
 - gastrointestinal surgery 551–559
 - geriatric 427–431
 - hematologic
 - anemia 323–349
 - bleeding 301–320
 - hepatobiliary surgery 570–574
 - neurologic
 - brain 271–279
 - central nervous system 253–270
 - general approach 253–270
 - peripheral nervous system 256, 293–298
 - spinal cord 256, 262, 263, 283–291
 - ocular 433–450, 591–595
 - ophthalmic surgery 591–595
 - pediatric 417–426
 - peripheral nervous system 256, 293–298
 - pleural effusion 93, 96–106, 98*t*, 100–106, 103*f*
 - reconstructive emergency surgery 582–589
 - reproduction 399–413, 576–580
 - respiratory 93–106
 - breathing 93–102
 - pleural effusion 93, 96–106, 98*t*, 100–106, 103*f*
 - surgery
 - gastrointestinal 551–559
 - hepatobiliary 570–574
 - ophthalmic 591–595
 - reconstructions 582–589
 - reproduction 576–580
 - trauma surgery 582–589
 - urinary surgery 560–568
 - toxicological 479–507
 - trauma surgery 582–589
 - urinary surgery 560–568
 - urologic 211–242
- Emergency databases 5–7, 5*b*
- Emergency plans 7–8, 7*b*
- Emergency room procedures 525–538, 541–549
- abdominocentesis 525, 532–533
 - AFAST & TFAST 531–532, 531–532*f*
 - blood pressure 525, 528–529
 - cardiac disease 525, 529–530, 534–535
 - catheters 525, 526–527, 535–536
 - coccygeal epidural 525, 536–537
 - congestive heart failure 525, 534–535
 - constipation 525, 538
 - cystocentesis 525, 535
 - direct blood pressure 525, 529
 - electrocardiograms 529–530
 - enemas 525, 538

- fluid therapy 525, 537
 - four quadrant paracentesis 533
 - handling procedures 525–526, 541–549
 - indirect blood pressure 525, 528–529
 - minimal-stress handling 541–549
 - nasogastric tube placement 525, 537–538
 - neoplasia 525, 532–534
 - oxygen supplementation 530
 - pericardiocentesis 525, 534–535
 - peritoneal lavage 533
 - pleural effusion 525, 531–534
 - point-of-care ultrasound 531–532
 - respiratory distress 525, 530–534
 - restraint procedures 525–526, 528
 - subcutaneous fluid administration 525, 537
 - technical procedures 525–538
 - thoracocentesis 525, 533–534
 - ultrasound 531–532
 - unique features in cats 525, 541
 - urinary catheter placement 525, 535–536
 - vascular access 526–528
- Emesis 480–481, 485–495, 498–507
- Emetics 58, 480–482, 480*b*, 490–493, 501–503
- EMF *see* endomyocardial fibroelastosis
- Emphysema 94, 124, 217, 583
- Empyema *see* septic pleuritis
- Enalapril 160, 239, 241, 368–369
- Encephalopathy 207–208
- Endocrine diseases
- diabetes mellitus 351–364
 - diagnostics 351–353, 367–372
 - hyperadrenocorticism 367, 368, 371–372
 - hyperaldosteronism 367, 370–371
 - thyroid storm 367–369
 - unique features in cats 351, 367
- Endometritis 409
- Endomyocardial fibroelastosis (EMF) 153, 155, 159–160
- Endoscopy 181–182
- Endothelial function 428
- Endotracheal intubation 59, 106
- Endotracheal wash (ETW) 124–125
- End-tidal capnography 124
- Enemas 482, 496–499, 525, 538
- Enilconazole 466–467
- Enoxaparin 146, 166, 316, 320
- Enrofloxacin
- acute kidney injury 243, 250
 - dermatologic emergencies 468–469, 473, 476
 - gastrointestinal conditions 205, 207, 209
 - hematologic emergencies 334, 345
 - ocular emergencies 433, 443–444
 - reproductive emergencies 408, 410
 - respiratory emergencies 97, 137, 197
- Enteral nutrition 84–88, 84–88*f*, 92*t*
- Enteropathy 202–203
- Enterotomy catheter 551, 556–557
- Enucleation 443, 591–595, 594*f*

- Environmental emergencies 509–523
 bites 509, 517–522
 central nervous system 509, 512, 523
 clinical signs 510, 512–513, 515, 517, 519, 520–522, 523
 diagnostics 510, 516, 517, 518–519, 521, 522, 523
 drowning/submersion 509, 515–517
 electrical injuries/electrocution 509, 522–523
 frostbite 509, 511–515
 heatstroke 509–511
 history 509, 517, 519, 520, 521, 522
 hyperthermia 509–511
 hypothermia 509, 511–515
 insect bites/stings 509, 519–522
 monitoring 510, 512–513, 517, 518, 519, 521, 522, 523
 pathophysiology 509–510, 512, 515, 517, 518–519, 520, 521, 522
 physical examinations 510, 512–513, 515, 517, 519, 520–522
 prognosis 511, 512–513, 517, 518, 519, 520, 521, 522, 523
 snakebites 509, 517–519
 spider bites 509, 520–522
 testing 510, 516, 517, 523
 treatments 511, 513–515, 516–518, 519, 520, 521–522, 523
 unique features in cats 509
 venom 509, 517–522
- Eosinophilia 121, 132, 135, 141, 195, 455
 Eosinophilic granuloma complex lesions 454–455, 454f, 463, 471–475
- Epidural administration 71, 72t
- Epinephrine
 analgesia 64, 68
 anesthesia 47, 56–57
 arrhythmias 172–173
 cardiopulmonary resuscitation 10, 12–16
 hematologic emergencies 341
 lower airway disease 125–126
 pediatric emergencies 424–426
 pulmonary parenchymal disease 137, 142
 reproductive emergencies 405
 shock 23
- Epistaxis 20, 30
- Epsom's salt 471, 482
- Erosion, dermatologic emergencies 455, 461, 465, 468, 470
- Erythema multiforme 461, 472–473, 521
- Erythrocyte indices 325, 325t
- Erythromycin 198, 204, 206, 435, 442–450
- Erythropoiesis 343–344
- Erythropoietin 237, 251, 343–344
- Esmolol 146, 149, 157, 159, 172–173, 368–369
- Esophageal disease 196, 200
- Esophageal foreign body 200
- Esophageal temperature probes 512–513, 512f
- Esophageal tubes 85–88, 86–88f
- Esophagitis 84, 196–197, 200, 334
- Esophagrams 179
- Estrous cycle 399, 400b
- Estrus 399, 400b, 406
- Ethanol 249–251, 494, 496
- Ethylene glycol (EG) 244–245, 249, 249b, 494–496, 494b
- Etomidate 59
- ETW *see* endotracheal wash
- Eutocia 400–401, 400f
- Excretory urograms 191–192, 231–232, 235
- Exenteration 441, 448
- Exophthalmos 449, 449f
- Expiratory grunt/push 120
- Extracellular translocation 380
- Extracranial stabilization 259–260
- Extrahepatic biliary obstruction 570–574
- Exudate
 gastrointestinal conditions 182, 191, 208
 respiratory emergencies 98, 100, 102
- Eyelid lacerations 447, 447f
- Eyes
 neurologic emergencies 255, 255f, 258
 ocular emergencies 433–450
 ophthalmic emergency surgery 591–595
 toxicological emergencies 480
- f**
- Face masks 530
- Facial nerve paralysis 112
- Facial neurologic emergencies 255, 255f
- Fan-belt injuries 31
- FAST *see* focused assessment with sonography for trauma
- Fasting recommendations 55
- Fatty casts 215
- FCV *see* feline calicivirus
- Fear, minimal-stress handling 541–542, 546–549
- Fecal examinations 121, 179–180, 180f
- Feeding tubes 84–85, 88–92, 194–196
- Feline acne 470–471
- Feline calicivirus (FCV) 110
- Feline Cushing's syndrome 267, 425
- Feline Grimace Scale 66, 67t
- Feline herpesvirus-1 (FHV-1) 110
- Feline idiopathic cystitis (FIC) 223–225
- Feline immunodeficiency virus (FIV) 324–325, 330, 333, 346, 348
- Feline infectious anemia 333–334, 333f
- Feline infectious peritonitis (FIP) 208–209, 271–273, 287, 301, 308–309, 319
- Feline ischemic encephalopathy 278–279
- Feline ischemic myelopathy 288
- Feline leukemia virus (FeLV) 309, 313, 323–330, 333–348
- Feline lower urinary tract disease (FLUTD) 224–225
- Feline pancreatic lipase immunoreactivity 181
- Fenbendazole 138, 141, 198
- Fentanyl 44, 68–69, 69t, 165, 290
- Ferrous sulfate 343
- Fetal bone mineralization 576, 577
- Fetotoxic drugs 412
- FHV-1 *see* feline herpesvirus-1
- Fibrinolysis tests 308, 312
- Fibroadenomatoid hyperplasia 411–412, 411f
- Fibrocartilaginous embolic myelopathy 288
- Fidget, displacement behavior 541–542, 542f
- Fight, behavior 541, 542f, 546
- Fine-needle aspiration (FNA) 220, 456
- Fire ant stings 519–520
- First aid advice 2
- FIV *see* feline immunodeficiency virus
- Flea combing 453, 455, 463–465
- Fleas 453–455, 454f, 463–465, 473–475
- Flight, reactive, defensive behavior 541, 542f
- Flow-by oxygen 530
- Fluconazole 138
- Flucytosine 138
- Fludrocortisone acetate 368, 370
- Fluid analysis 182–183, 189, 191–192
- Fluid cytology 102
- Fluid diuresis 80
- Fluid losses, hypernatremia 376
- Fluid therapy 75–81
 acute abdomen 187–188
 acute kidney injury 246–247
 anesthesia 39–40, 47, 50–51, 56
 calculations 78b
 chronic kidney disease 236–238
 colloid solutions 56, 75–77, 76t
 conditions requiring 77–81
 bicarbonate supplementation 79
 dehydration 77–79, 78t, 80b
 fluid diuresis 80
 potassium supplementation 78–79, 78t
 shock 22–23, 75–78, 77t, 78t
 surgery and anesthesia 56
 trauma 27–28
 constant rate infusion 80–81
 critically ill patients 7, 39–40, 47, 50–51
 crystalloid solutions 56, 75–78, 76t, 80
 diabetes mellitus 351, 355–364, 360b
 diabetic ketoacidosis 357–358, 361
 emergency plans 7
 emergency room procedures 525, 537
 frostbite/hypothermia 514–515
 gastrointestinal emergency surgery 553
 geriatric emergencies 430–431
 goal of 75
 heatstroke 511
 hypercalcemia 385
 hyperglycemic hyperosmolar syndrome 363–364
 hyperkalemia 381–382

- Fluid therapy (*cont'd*)
- hypernatremia 377–378
 - hypoadrenocorticism 370
 - hypocalcemia 383
 - hypomagnesemia 390–391
 - maintenance 78*b*, 79
 - neonatal resuscitation 405–406
 - neurologic emergencies 260–261
 - ongoing loss 79
 - pediatric emergencies 417–418, 420–422
 - requirements of 420, 430–431
 - sample case 80*b*
 - seizures 266, 272
 - septic pleuritis 103
 - shock 22–23, 75–78, 77*t*, 78*t*
 - spider bites 522
 - systemically healthy cats 56
 - thromboembolism 240
 - trauma 27–28
 - unique features in cats 75
 - ureteral obstruction 231–232
 - urethral tear 229
- Fluorescein stain tests 434
- Fluoroquinolones 137, 334, 419, 435–437, 473–474
- Fluoroscopic/radiographic studies 227
- FLUTD *see* feline lower urinary tract disease
- Fluticasone 127, 128
- Fluticasone propionate 127, 128*t*
- FNA *see* fine-needle aspiration
- Focal seizures 264
- Focused assessment with sonography for trauma (FAST) 38–39, 153, 156, 229, 234, 531–532, 531–532*f*
- Focused cardiac ultrasound 144–145, 153, 156, 158*f*
- Folate 181
- Folic acid 198
- Food allergies 453–455, 454*f*, 463–464, 470–471
- Foreign bodies
- acute abdomen 192
 - emergency surgery 551–559
 - gastrointestinal conditions 200–201, 551–559
 - lower airway diseases 122
 - nasal diseases 111
 - nasopharyngeal diseases 113–114
 - ocular emergencies 443
 - pain management 72
 - tracheal diseases 115–116
- Four quadrant paracentesis 180–182, 533
- Fractional clearance 216
- Fractures 289, 293–294, 294*t*
- Fragmin 166
- Freeze reaction signs 541–542, 542*f*
- Freshwater drowning/submersion 509, 515–517
- Frostbite 509, 511–515
- clinical signs 512–513
 - definitions 511–512
 - monitoring 512–513
 - pathophysiology 512
 - physical examinations 512–513
 - physiologic effects 512–513
 - prognosis 512–513
 - treatments 513–515
- Fructosamine serum 352
- FTLI *see* serum trypsin-like immunoreactivity
- Full-thickness burn wounds 461–462
- Fungal culture 453, 455–460, 457–458*f*, 466–467, 470–471
- Fungal infections
- dermatologic emergencies 453, 455–460, 457–458*f*, 466–467, 470–471, 473–476*t*
 - lower airway diseases 122
 - nasal diseases 111
- Furosemide
- acute kidney injury 250
 - advanced or refractory heart failure 160
 - cardiac diseases 156–160
 - cardiac emergencies 146–147
 - chronic heart failure 159
 - congestive heart failure 145
 - electrolyte disorders 378, 381, 385, 391, 393
 - hypercalcemia 385
 - pleural space disease 101
 - pulmonary parenchymal disease 138
 - respiratory emergencies 96–97, 101, 138
 - thromboembolism 164, 174
 - toxicological emergencies 487
- g**
- Gabapentin 58, 290, 496, 549
- Gait 271, 283–284, 285*t*
- Gallbladder 572, 573, 573*f*
- Gastric lavage (GL) 481, 487
- Gastric ulceration 201–202
- Gastrointestinal conditions
- abdominal exploration 192–194, 193*f*
 - abdominal palpation 177
 - abdominal radiographs 177–181, 178*f*, 200–201, 205, 208
 - abdominal ultrasound 181
 - abdominocentesis 182
 - acute abdomen 185–194
 - acute diarrhea 202
 - acute kidney injury 247–248, 247*t*
 - acute vomiting 200
 - albumin 181
 - analgesia 193–194
 - anastomosis 551, 554–559, 557*f*
 - anesthesia 36–37
 - auscultation 177
 - bile acids 181
 - biochemical analysis 191–192
 - blood tests 181–182
 - causes 186, 186*b*
 - chemical fluid analysis 189, 191–192
 - cholangiohepatitis 206–207
 - cholangitis 206–207
 - chronic enteropathy 202–203
 - clinical signs 177, 551
 - complications 558–559
 - constipation 203–204
 - critically ill and anesthesia 36–37
 - cytology 179, 182–183, 189, 191, 195, 205–208, 553
 - diagnostics 177–196, 200–208, 551–553
 - diarrhea 202
 - differential diagnosis 185–186, 195–196, 200, 202–204, 208
 - drug tables 197–199*t*
 - effusion 182, 182*t*, 188–189, 191–192
 - emergency surgery 551–559
 - encephalopathy 207–208
 - endoscopy 181–182
 - enteropathy 202–203
 - enterotomy catheter 551, 556–557
 - esophageal disease 196, 200
 - esophagrams 179
 - fecal examinations 179–180, 180*f*
 - flow charts 193–194, 194*f*
 - fluid analysis 182–183, 189, 191–192
 - fluid therapy 187–188
 - folate 181
 - foreign bodies 72, 200–201, 551–559
 - frostbite/hypothermia 513
 - gastrostomy 555–556, 556*f*
 - globulins 181
 - heatstroke 510
 - hepatic encephalopathy 207–208
 - hepatic lipidosis 205–206
 - hyperkalemia 380
 - imaging 192–193
 - intraoperative considerations 553–555
 - intussusception 558
 - lower GI series evaluation 179
 - management 195–209
 - megacolon 203–204
 - monitoring 177–183
 - nutritional support 194, 200, 201, 206
 - obstipation 203–204
 - obstruction 200–201, 203–205, 551–559
 - oral cavity disease 195–196, 200
 - oral examinations 177
 - packed cell volumes 182
 - palpation 177
 - pancreatic lipase immunoreactivity 181
 - pancreatitis 204–205
 - paracentesis 182
 - perception of pain 185–186
 - peritoneal lavage 180–181, 188–189, 190*f*
 - peritonitis 208–209
 - physical examinations 186–187, 192–193, 193*f*, 195, 200, 203, 207, 551
 - post-operative considerations 551, 553–559, 555*f*, 558
 - pre-operative considerations 553
 - procedural considerations 555–558
 - radiography 177–181, 178*f*, 195–196, 200–201, 203, 205, 208

- reconstructive emergency surgery 582
 - rectal prolapse 204
 - regurgitation 196, 200
 - resection 557–558, 557f
 - septic peritonitis 551, 553–559, 555f
 - serum trypsin-like immunoreactivity 181
 - stabilization procedures 187–188
 - sutures 554–556
 - tests 551–553
 - thyroid storm 367
 - toxicological emergencies 480–489, 492–502, 505–507
 - treatments 196, 200–209
 - ulceration 201–202
 - ultrasound 181, 201, 208
 - undiluted abdominal effusion 191–192
 - unique features in cats 177, 185, 531
 - upper GI series evaluation 179
 - Gastroprotectants 291
 - Gastrostomy 88–89, 555–556, 556f
 - Gastrostomy tubes 88–89
 - Geriatric emergencies 427–431
 - comorbid conditions 427
 - definitions 427
 - fluid requirements 430–431
 - history 427
 - laboratory value variations 428
 - neurologic system 430
 - nutritional support 429
 - pharmacology 430
 - physical examinations 427–428
 - radiography 428–429
 - sarcopenia 429
 - unique features in cats 427
 - Giardia* 179, 180f, 202, 421
 - GL *see* gastric lavage
 - Glargine insulin 353, 353b
 - Glasgow CMPS-Feline pain scale 66, 67t
 - Glaucoma 440–443, 440b, 440–442f, 591–592
 - Global hemostatic function tests 308
 - Globe disorders/injuries/trauma 433, 441–443, 441f, 449, 591–595, 594f
 - Globulin serum 181
 - Glomerular filtration rate 428
 - Glomerulonephritis (GN) 240–242
 - clinical signs 240
 - definitions 240
 - diagnostics 240
 - physical examinations 240
 - tests 240–241
 - treatments 241–242
 - Glucocorticoids
 - dermatologic emergencies 463–465, 469–471
 - diabetes mellitus 352–353
 - gastrointestinal conditions 197–199
 - hematologic emergencies 314–316, 330–331
 - hypercalcemia 385, 393
 - hypoadrenocorticism 370
 - neurologic emergencies 261, 296, 299
 - parenchymal disease 137, 140–142
 - shock 23–24
 - Glucose
 - see also* dextrose; hyperglycemia; hypoglycemia
 - acute abdomen 192
 - cardiopulmonary resuscitation 425
 - diabetes mellitus 355–364, 359b
 - emergency databases 6
 - gastrointestinal conditions 183
 - hyperkalemia 381
 - urologic emergencies 214
 - Glucose serum 363–364
 - Glucuronidation 55
 - Glycemic control 24
 - Glycopyrrolate 175t
 - GN *see* glomerulonephritis
 - Granulomatous meningoencephalitis (GME) 271, 273
- ## h
- H1N1 influenza virus 110
 - H₂ blockers 247, 511
 - Hair 454–476
 - Hairballs 195
 - Halitosis 110
 - Handling procedures
 - emergency room procedures 525–526, 541–549
 - minimal-stress handling 541–549
 - Haws 446
 - HCM *see* hypertrophic cardiomyopathy
 - HcT *see* hematocrit
 - HE *see* hepatic encephalopathy
 - Head mange 456, 457f, 465
 - Head trauma 259–260, 275, 425–426
 - etiology 259
 - pathophysiology 259
 - pediatric emergencies 425–426
 - treatments 259–260
 - Heart disease *see* cardiac disease
 - Heart failure
 - chronic 159–160
 - ACE inhibitors 159
 - beta-blockers 159–160
 - calcium-channel blockers 160
 - digoxin 160
 - diuretics 159
 - monitoring 160
 - pimobendan 160
 - spironolactone 160
 - treatment 159–160
 - congestive
 - diagnostics 143–147
 - emergency room procedures 525, 534–535
 - monitoring 144–145
 - physical examinations 143–144
 - pleural effusion 100–101
 - signalment 143
 - systemic thromboembolism 161
 - treatments 145–147, 146t
 - life-threatening 156–160, 157t, 158f
 - algorithms 158f
 - confounding factors 159
 - diuretics 156
 - drug tables 157t
 - oxygen supplementation 159
 - pleurocentesis 156, 159
 - treatments 156–160, 157t, 158f
 - lower airway diseases 122
 - treatments 156–160, 157t, 158f
 - Heart murmur 20, 34–36, 94–97, 153–154, 160, 227
 - Heart size 36, 96
 - Heartworm 121, 122
 - Heat cramps 509
 - Heat exhaustion 509
 - Heatstroke 509–511
 - Heat support 56
 - Heavy metals 295, 498–500, 498b
 - Heinz bodies 336–338, 338f
 - Hematocrit (Hct) 7, 417–418, 420, 422
 - Hematologic emergencies
 - anemia 323–349
 - bleeding 301–320, 315–316t
 - clinical examinations 303–304, 324–327
 - clinical signs 301
 - diagnostics 301–314, 323–349
 - disseminated intravascular coagulation 301, 308–311, 310–311f, 319
 - monitoring 302–303, 323–324
 - neoplasia 308–313, 310–311f
 - nonregenerative anemias 323, 325, 327, 329t, 331–333, 342–349
 - physical examinations 304, 325
 - regenerative anemia 324–337, 329t, 342
 - stabilization 302–303, 323–324
 - tests 304–312, 305t, 306–307f, 309–311f, 325–327
 - thrombocytopenia 301, 304–314, 318–319
 - treatments 302–303, 313–314, 317–320, 330–349
 - unique features in cats 301, 323
 - Hematology
 - anesthesia 37–38
 - frostbite/hypothermia 513
 - heatstroke 510
 - pediatric emergencies 418
 - Hematopoietic neoplasia 347–348
 - Hemobartonella felis* 333
 - Hemobartonellosis 333–334, 333f
 - Hemodialysis 222
 - Hemodynamic care 16–17
 - Hemoglobin 323, 325, 332, 335–341, 344
 - Hemolysis 323–341, 328f, 329t, 348
 - Hemolytic anemia 323, 327–330, 334–335, 338–340, 422–423
 - Hemolytic transfusion reactions 332

- Hemorrhage
 anemia 323–324, 328*f*, 329*t*, 341–348
 bleeding 313
 hepatobiliary emergency surgery 573
 pulmonary parenchymal disease 133, 143
 shock/trauma 20, 25
 treatments 142
- Hemorrhagic anemia 341–346
- Hemostasis 305–313, 317
see also bleeding emergencies
- Heparin
 anemia 332
 arterial thromboembolism 148, 165–166
 bleeding 307–308, 316, 320, 331
 critically ill cats 5
 urologic emergencies 221
- Hepatic disease 38, 367
- Hepatic dysfunction, thyroid storm 367
- Hepatic encephalopathy (HE) 207–208, 271, 273–274
- Hepatic lipidosis 205–206, 570–571
- Hepatobiliary disease 186, 308, 317–318
- Hepatobiliary emergency surgery 570–574
 clinical signs 570
 complications 574
 diagnostics 570–571
 intraoperative considerations 571–572
 physical examinations 570
 post-operative considerations 574
 pre-operative considerations 571
 procedural considerations 572–574, 573*f*
 prognosis 574
 stabilization 571
 tests 570–571
 unique features in cats 570
- Hernias 262–263, 412–413, 582–589, 584*f*
- Herniorrhaphy 586–588
- HES *see* hydroxyethyl starches
- Hetastarch 37, 40, 76–77, 259
- HHS *see* hyperglycemic hyperosmolar syndrome
- Hiding behavior 544
- High-rise syndrome 30
- Histoplasma capsulatum* 122
- HOCM *see* hypertrophic obstructive cardiomyopathy
- Holter monitoring 148
- Home management, toxicological emergencies 479
- Homeostasis 373, 378, 382, 386, 389
- Honeybee stings 519–520
- Hookworms 421
- Horner's syndrome 255, 255*f*, 278–279
- Hornet stings 519–520
- Hot spots 454
- Housing facilities 547–548
- Human poison control centers 480
- Humulin insulin 353
- Hydrochlorothiazide 160
- Hydrogen peroxide 481
- Hydromorphone 44, 57–58, 67–69, 69*t*, 290
- Hydronephrosis 217, 220, 231
- Hydroxyethyl starches (HES) 76–77
- Hyperactive thyroid gland tissue inhibitors 368–369
- Hyperadrenocorticism 367, 368, 371–372
- Hyperaldosteronism 367, 370–371
- Hyperalgesia pain 63, 64
- Hypercalcemia 384–386, 384*t*
- Hyperglycemia 351–356, 359–363
- Hyperglycemic hyperosmolar syndrome (HHS) 351, 353–354, 362–364
- Hyperinflation 121
- Hyperkalemia 232, 237, 380–382
- Hypermagnesemia 391, 391*b*
- Hypermetria 254, 258, 379
- Hypernatremia 375–378
- Hyperosmolar therapy 267
- Hyperparathyroidism 237–238, 384
- Hyperphosphatemia 238–239, 248, 383, 387–888, 388*t*, 392–393, 395
- Hyperplasia 411–412, 411*f*
- Hypertension
 acute kidney injury 236, 246, 250
 cardiopulmonary resuscitation 16
 chronic kidney disease 236, 239
 geriatric emergencies 427
 glomerulonephritis 239
 hematologic emergencies 344–345
 hyperaldosteronism 370–371
 neurologic emergencies 273–274, 278–279, 299
 ocular emergencies 433, 439, 444–445
 ophthalmic emergency surgery 591
 pediatric emergencies 424
 respiratory emergencies 125–126, 136–137, 140
 seizures 273
 thyroid storm 369
 trauma 27–29
 urologic emergencies 236, 239, 241, 250
- Hypertensive encephalopathy 271, 273, 278
- Hyperthermia
 analgesia 65, 68–69
 anesthesia 56
 heatstroke 509–511
 neurologic emergencies 264–265, 268, 275–291
 shock 22
 toxicological emergencies 485–486, 492–493
 trauma 31
- Hyperthyroidism
 arterial thromboembolism 163
 gastrointestinal conditions 200, 202–203
 neurologic emergencies 279, 293
 peripheral nervous system 296
 thyroid storm 367–369
- Hyperthyroid myopathy 296
- Hypertonic saline 27–29, 76–77, 261, 266, 273–275, 523
- Hypertonic sodium phosphate enemas 496–497
- Hypertonic solutions 27–29, 75–77, 76*t*, 260, 267, 273–275, 523
- Hypertrophic cardiomyopathy (HCM) 49–50, 154, 155, 157–160
- Hypertrophic feline muscular dystrophy 256
- Hypertrophic obstructive cardiomyopathy (HOCM) 155, 157–160
- Hyperventilation 425
- Hypervolemic status 376
- Hyphema 301, 434, 439–440, 447–448, 448*f*
- Hypnotics 59
see also specific agents
- Hypoadrenocorticism 367, 369–370
- Hypocalcemia 382–383, 383*t*
- Hypoglossal nerve 255
- Hypoglycemia 351–355, 358, 361, 420–421, 511
- Hypoglycemic, oral 353–354
- Hypokalemia 231, 237, 378–380, 379*t*
- Hypokalemic myopathy 296
- Hypomagnesemia 389–391, 389*t*, 390–391
- Hypometria 254
- Hyponatremia 216, 277, 373–375, 374*t*, 375, 375*t*
- Hypoparathyroidism 383
- Hypophosphatemia 340–341, 386–387, 387*t*
- Hyposthenuria 384
- Hypotension
 anesthesia 36, 40, 47–50, 59, 68–70
 cardiac emergencies 145–146, 156–159
 cardiopulmonary resuscitation 16–17
 critically ill patients 47
 respiratory emergencies 95, 101–102, 120
 shock 20, 22–24
 trauma 27
- Hypothermia
 frostbite 509, 511–515
 pediatric emergencies 420
 physiologic effects 512–513
 shock 19–20, 22
 trauma 28
- Hypotonic crystalloids 377
- Hypotonic fluid losses 376
- Hypotonic solutions 75, 76*t*
- Hypoventilation 99, 425
- Hypovolemia 15–17, 26–27, 68–69, 246, 358
 electrolyte disorders 373–374, 376–377
 pediatric emergencies 421–423
- Hypovolemic shock 20–21, 77
- Hypovolemic status 376, 377
- Hysterotomy 404, 577–579
- i**
- IASP *see* International Association for the Study of Pain
- Iatrogenic ureteral injuries 234
- IBD *see* inflammatory bowel disease
- Ibuprofen 497
- IDA *see* iron deficiency anemia
- Idiopathic brain inflammation 271, 273
- Idiopathic hypereosinophilia syndrome 132, 141

- Idiopathic inflammatory 296
 Idiopathic polyneuropathy 297
 Idiopathic pulmonary fibrosis 132, 134, 142
 Idiopathic vestibular disease 271, 277–278
 Idoxuridine 436, 449–450
 Ileus 559
 Imepitoin 274
 IMHA *see* immune-mediated hemolytic anemia
 Imidazole 45
 Immune-mediated hemolytic anemia (IMHA) 323, 327–335, 338–340, 413
 Immune-mediated thrombocytopenia (ITP) 313–314
 Immune response, chronic stress 541–542
 Immune system, pain management 65
 Immunosuppressive therapy 241, 331–332
 Incontinence 298
 Incoordination/ataxia 256–257
 Indirect blood pressure 525, 528–529
 Indolent corneal ulcers 437–438
 Infectious peritonitis 271, 273
 Infectious thrombocytopenia 314–317
 Inflammation
 analgesia in critically ill cats 63
 dermatologic emergencies 453–456, 461–465, 468–471, 475
 hepatobiliary emergency surgery 570–574
 ocular emergencies 438–440, 439b, 439f, 448–449, 448f
 peripheral nervous system 296
 spinal cord 286, 287
 Inflammatory bowel disease (IBD) 182, 195, 202–204, 317
 Inflammatory laryngeal diseases 114
 Inflammatory myopathy 296
 Inflammatory pulmonary parenchymal disease 132, 141
 Influenza virus 110
 Inhalants
 anesthesia 46, 60–61, 60t
 lower airway diseases 127–129, 128t
 Inhaled toxins 142
 Inhalers, asthma 127, 127f
 Inherited coagulopathies 318–319
 Injectable chronic therapy 127, 128t
 Injuries *see* trauma
 Inotropes 50
 In-saline agglutination test 326–327
 Insect bites/stings 505, 505b, 509, 519–522
 Insecticides 268, 295, 490–491, 490b
 Insoluble calcium oxalate plants 498
 Inspiratory time 109
 Insulin
 diabetes mellitus 351–364
 electrolyte disorders 378–381, 386–389, 395
 hematologic emergencies 316, 340
 neurologic emergencies 273
 overdose 6, 355–362
 pediatric emergencies 420
 shock 24
 toxicological emergencies 487
 urologic emergencies 51, 227, 248
 Interstrus 399
 Interferon 345, 347
 International Association for the Study of Pain (IASP) 63
 Interpleural analgesia 71, 72t
 Interstitial alveolar edema 28
 Interstitial pneumonia 142
 Intervertebral disk herniation 262–263, 286
 Intestinal anastomosis 551, 554–559
 Intracellular translocation 387
 Intracranial pressure 523
 Intracranial stabilization 260–261
 Intramarrow disorders 345–349
 Intraocular pressure (IOP) 434–435, 439–441, 444, 448–450
 Intraosseous access 14b, 527
 Intrapleural analgesia 72
 Intravenous diltiazem hydrochloride 172, 173t
 Intravenous lipid therapy 482
 Intravenous potassium supplementation 379–380, 379t
 Intravenous urograms 561
 Intussusception 558
 Invasive blood pressure 525, 529
 Iodine 369
 Ionized calcium 425
 Ion trapping 482
 IOP *see* intraocular pressure
 Iopanoic acid 368, 369
 IRIS AKI grading criteria 245, 245t
 Iris inflammation 438–440, 439b, 439f
 Iron deficiency anemia (IDA) 342–343
 Iron dextran 198
 Iron supplementation 202, 238, 342–343
 Ischemic myelopathy 288
 Ischemic neuromyopathy 294
 Isoantibodies 332
 Isoerythrolysis 332–333
 Isoflurane 41, 45, 50, 60, 403, 578
 Isoproterenol 175t
Isospora 180f
 Isotonic losses 20, 22
 Isotonic solutions 75–76, 76t
 ITP *see* immune-mediated thrombocytopenia
 Itraconazole 139, 466, 474
 Ivermectin 139, 141, 464–465, 474
- j**
 Jejunostomy or jejunal tubes 89
 Jen Chung Acupuncture 405
 J-through-PEG tube 89
 Jugular catheters 526
 J waves 513
- k**
 Keppra 266–267
 Keratoconjunctivitis sicca (KCS) 449–450
 Keratostomy 591–593, 595
- Ketamine
 critically ill cats 44, 49, 69–70, 71t
 lower airway diseases 123
 reproductive emergencies 403, 578
 systemically healthy cats 55, 59
 Ketoacidosis 351, 353–364, 359b
 Ketoconazole 139, 315, 466
 Ketonemia 356, 359
 Ketones 214, 356–357
 Ketonuria 352, 356
 Ketoprofen 69, 70t
 Kidneys
 acute injury 243–251
 chronic disease 231, 236–239
 sodium 373
 urologic emergencies 216–217
 Kirby's Rule of 20 34, 35t
 Kittens
 cerebellar hypoplasia 271
 hematologic emergencies 332–333, 342
 ocular emergencies 444
 pediatric emergencies 417–426
 reproductive emergencies 400–404, 410–412
 upper airway diseases 110, 114, 122
 K-max 78, 79
- L**
 Laboratory value variations 418, 428
 Lacerations, ocular emergencies 446–447, 446–447f
 Lactate concentration 27, 38, 183
 Lactational disorders 410–412, 411b, 411f
 Lactulose 198
 Laryngeal diseases 114–115
 Laryngeal paralysis 95, 114–115
 Laryngoscopy 10, 48, 95
 Laryngospasm 13, 40, 515–516
 Larynx diseases 48, 110, 114–115
 Latanoprost 441
 Laxatives 198–199, 204, 538
 L-carnitine 198, 206
 Lead toxicity 295, 498–500, 498b
 Lens luxation 445
 Lente insulin 353, 353b
 Leukograms 121, 352, 371, 516, 519
 Levamisole 139
 Levetiracetam 266, 272, 274, 487
 Levothyroxine 500
 Lidocaine
 analgesia 64, 70–72
 anesthesia 40–41, 46, 48
 arrhythmias 169, 172–174, 173t
 cardiac diseases 157, 159
 cardiac emergencies 146, 149
 cardiopulmonary resuscitation 9–10, 12–15, 14t
 critically ill cats 71
 reproductive emergencies 404, 419
 toxicological emergencies 502
 Life support 9–15, 12b
 Life-threatening arrhythmias 169–175

- Life-threatening heart failure 156–160, 157*t*, 158*f*
- Life-threatening respiratory emergencies 93
- Lilies 500–501
- Lime sulfur (LymDyp) 465–466, 474
- Line block 404, 578
- Lip droop 255, 255*f*
- Lipidosis 570–571
- Lipid pneumonia 141
- Lipid therapy 482
- Liquid diets 91
- Liver disease 38, 367
- LMWH *see* low-molecular-weight heparins
- Local anesthetics 66, 70–72, 72*t*
- Locomotion 271
- Long-acting insulin therapy 353, 353*b*
- Loud, breathing 94–96
- Lovenox 166
- Low-dose dexamethasone suppression test 371–372
- Lower airway diseases 119–129
- anesthesia 123–124
 - asthma 119–120, 122–129
 - auscultation 120
 - bronchiectasis 119–121, 125, 129
 - bronchitis 119–122, 125–129, 126*f*, 127*f*, 128*t*
 - bronchodilators 125–129, 126*t*, 128*t*
 - chronic therapy 127–129, 128*t*
 - clinical signs 119–120, 123
 - confirmatory diagnostics 123–125
 - corticosteroids 125, 126*t*, 127
 - definitions 119
 - diagnostics 121–125
 - differential diagnosis 122–123
 - drug combinations 123–124
 - emergencies 94–95, 98–99
 - emergent therapies 123, 125–127, 126*t*, 127*f*
 - endotracheal wash 124–125
 - etiology 123–125
 - history 119
 - infections 122
 - lung mechanics 124
 - neoplasia 122
 - oxygenation 123
 - oxygen therapy 125, 126*t*
 - pathophysiology 120–121
 - physical examinations 119–120
 - pulmonary function tests 124
 - respiratory patterns 119–120
 - serum chemistry 121
 - signalment 119
 - smoke inhalation 122–123
 - treatments 123, 125–129, 126*t*, 127*f*, 128*t*
 - tumors 122
 - unique features in cats 119
 - whole-body plethysmography 124
- Lower GI series evaluation 179
- Lower motor neuron signs 99, 256, 284, 288, 291, 298
- Low-molecular-weight heparins (LMWH) 148, 166
- Lufenuron 141
- Lung aspirate 135
- Lung auscultation 110
- Lung biopsy 135
- Lung compliance 124
- Lung lobe torsion 142
- Lung mechanics 124
- Lung resistance testing 124
- Luxation 288–289, 294
- LymDyp (lime sulfur) 465–466, 474
- Lymphangiectasia 104, 182
- Lymphosarcoma 286
- Lysine 320, 436, 449
- ## m
- Magnesium
- diabetic ketoacidosis 359–360, 361
 - electrolyte disorders 388–391
 - function of 388–389
 - homeostasis 389
- Magnesium chloride 390–391, 394
- Magnesium sulfate 173, 471, 482
- Magnetic resonance imaging (MRI) 133, 286, 287*t*
- Malassezia* 453, 456, 464, 474
- Malformation, spinal cord 286
- Malnutrition 83, 91, 383, 429, 512, 559
- Mange 456, 457*f*, 465
- Mannitol
- cardiopulmonary resuscitation 14, 17
 - electrolyte disorders 374–376, 387
 - environmental emergencies 511, 523
 - neurologic emergencies 260–261, 267, 273, 275–277, 279
 - ocular emergencies 440–441
 - reproductive emergencies 411
 - toxicological emergencies 487, 500
 - trauma 29
 - urologic emergencies 232–233, 250
- Marbofloxacin 474
- Marijuana 501
- Maropitant citrate 198
- Mask/chamber/box inductions 46
- Massasaugas bites 517–518
- Massive envenomation 520
- Mass lesions 116–117
- Mastitis 410
- MCHC *see* mean corpuscular hemoglobin concentration
- MCV *see* mean corpuscular volume
- MDS *see* myelodysplastic syndromes
- Mean arterial blood pressure 29, 56, 221, 246, 259, 421–425
- Mean corpuscular hemoglobin concentration (MCHC) 325
- Mean corpuscular volume (MCV) 325
- Mechanical gastrointestinal obstruction 551
- Meclizine 279
- Mediastinal mass 105–106
- Medulla disease 272
- Megacolon 203–204
- Megaesophagus 195, 255, 293
- Megakaryocytic hypoplasia 313
- Melaleuca 501–502
- Meloxicam 69–70, 70*t*, 567, 595
- Melting ulcers 437
- Menace response 258
- Mentation 253, 258–259, 283
- Mercury intoxication 295
- Mesenteric thrombosis 163, 193
- Metabolic acidosis 231, 237
- Metabolic diseases
- Conn's syndrome 367, 370–371
 - diabetes mellitus 351–364
 - hyperadrenocorticism 367, 368, 371–372
 - hyperaldosteronism 367, 370–371
 - thyroid storm 367–369
 - unique features in cats 351, 367
- Metabolic disorders
- frostbite/hypothermia 513
 - peripheral nervous system 295–296
- Metabolism, anesthesia in healthy cats 55, 56, 58, 59–60
- Metamucil 199
- Methadone 67, 69*t*, 290
- Methemoglobin 14, 123, 337–339, 483–484
- Methemoglobinemia 338–339
- Methimazole 293, 297, 368–370
- Methocarbamol
- environmental emergencies 522
 - neurologic emergencies 268–269, 275, 279, 286, 291, 298–299
 - spinal cord 291
 - toxicological emergencies 485, 487, 494, 502–507
- Methoxyflurane 578
- N*-methyl-D-aspartate (NMDA) 58, 60, 64, 69–72, 71*t*, 290
- Methylprednisolone 289, 291, 474
- Methylprednisolone acetate 127, 128*t*, 368–372
- Methylprednisolone sodium succinate (MPSS) 260–263
- 4-Methylpyrazole 249
- Methylxanthines 502, 502*b*, 502*f*
- Metoclopramide 196–198, 204–206, 238, 247
- Metoprolol 173
- Metritis 409–410, 410*f*
- Metronidazole 196–198, 204–206, 236, 247, 269–270
- Miconazole 466, 468, 474
- Microangiopathic anemia 340
- Microsporum canis* 457, 458*f*
- Microvascular thrombosis 259, 262, 319
- Midazolam
- anesthesia 44, 52, 56–58
 - arterial thromboembolism 165

- lower airway disease 122–123
- neurologic emergencies 265, 272, 279, 295
- toxicological emergencies 491, 500
- Midbrain disease 272
- Milbemycin 464, 474
- Miliary dermatitis 455, 463–464
- Mineralocorticoid replacement 370
- Minimal-stress handling (MSH) 541–549
 - acute stress 541–543
 - behavioral responses 541–549, 542f, 543f, 548f
 - cages/carriers 543–549
 - chronic stress 541–543, 543f, 548–549
 - copying strategies 541–544, 542–543f, 549
 - instructing clients 542–546
 - medication procedures 547, 549
 - restraint procedures 542–549
 - triage 541, 543–544
 - unique features in cats 541
- Minnesota Urolith Center 229
- Minocycline 139
- Misoprostol 204
- Mites 453–458, 457f, 463–470, 465f, 474t
- Mithramycin 385, 394
- Modified Glasgow Coma Scale 261
- Modified transudates 98–101, 182, 191
- Mometamax 475
- Morphine
 - acute kidney injury 246
 - arterial thromboembolism 165
 - coccygeal epidural 525, 535–537
 - critically ill cats 67–69, 69t, 72
 - emergency room procedures 525, 536–537
 - fluid therapy 80
 - systemically healthy cats 55, 57–58
- Mortality, bleeding 319–320
- Motility modifiers 247–248
- Motor neuron signs 99, 256, 284, 288, 291, 298, 486
- MPSS *see* methylprednisolone sodium succinate
- MRI *see* magnetic resonance imaging
- MSH *see* minimal-stress handling
- Mucolytics 139, 141
- Mucomyst 139, 198
- Multimodal analgesia 66
- Mupirocin 471, 474
- Murmurs 20, 34–36, 94–97, 153–154, 160, 227
- Muscarinic effects 268
- Muscarinic receptors 291, 491
- Muscle relaxants 291, 522
- Muscle tone 284, 285t
- Muscular dystrophy 256
- Muscular system, thyroid storm 367
- Musculoskeletal system 36, 57
- Myasthenia gravis 256, 293, 296–297
- Mycobacterial infections 132
- Mycophenolate 198
- Mycophenolate mofetil 331
- Mycoplasma infections 132, 136–137, 139
- Mycoplasma* spp. 110, 122, 125, 333–334
- Mycotic pneumonia 132, 141
- Mycotoxin 19
- Myelinated fiber axons 185–186
- Myelodysplastic syndromes (MDS) 346–347
- Myelofibrosis 347
- Myelophthisis 347
- Myocardial oxygen demand and stress 49–50
- Myocardial thickening 155
- Myoglobin casts 215
- Myopathy 294, 296
- Myositis 296
- Myotatic reflexes 284
- n**
- N*-acetylcysteine 139, 198
- Naloxone 13–14, 45, 68, 405
- Naloxone, atropine, vasopressin, epinephrine, and lidocaine (NAVEL) 13
- Narcotics 123
- Nasal discharge 110
- Nasal diseases 110–114, 112–113f
- Nasal planum deformation 110
- Nasoesophageal tubes 84–85, 84–85f
- Nasogastric tubes 84–85, 84–85f, 525, 537–538
- Nasopharyngeal diseases 112–114, 113f, 114
- National Animal Poison Control Center 480
- Natural colloid solutions 76
- NAVEL *see* naloxone, atropine, vasopressin, epinephrine, and lidocaine
- NCPE 97–98
- Near-drowning 509, 515–517
- Neomycin 198, 208, 468–469, 476
- Neonatal alloimmune hemolytic anemia 422–423
- Neonatal emergencies *see* pediatric emergencies
- Neonatal isoerythrolysis 332–333
- Neonatal resuscitation 404–406, 405b
- Neonatal sepsis 423–424
- Neoplasia
 - anemia 347–348
 - bleeding 308–313, 310–311f
 - clinical signs 105
 - diagnostics 106, 111
 - emergency room procedures 525, 532–534
 - hematologic emergencies 308–313, 310–311f
 - hepatobiliary emergency surgery 570–572, 574
 - laryngeal diseases 114–115
 - lower airway diseases 122
 - nasal diseases 111–112
 - nasopharyngeal diseases 114
 - pleural space disease 105–106
 - pulmonary parenchymal disease 142
 - spinal cord 286
- Neoral 469–471, 473
- Nephrostomy catheters 233, 565
- Nephrotoxins 245
- Nerve block 46, 66, 71
- Neuroactive steroids 45
- Neurological system
 - anesthesia 36
 - critically ill cats 3–5, 4b, 8, 36
 - drowning/submersion 515
 - emergency plans 8
 - geriatric emergencies 430
 - heatstroke 510
 - ocular emergencies 433, 444–446
 - primary surveys 4–5, 4b
 - shock 21
 - smoke inhalation 122
 - thyroid storm 367
 - trauma 28–29
 - waiting room triage 3
- Neurologic emergencies
 - bladder 284, 285t, 298
 - brain 271–279
 - central nervous system 253–270, 271, 291, 295, 299
 - CNS toxins 267–270
 - coma 275
 - diabetes 295–296
 - drug tables 279t, 290–291t, 299t
 - fluid therapy 260
 - general approach 253–270
 - head trauma 275
 - hepatic encephalopathy 271, 273–274
 - Horner syndrome 278–279
 - intoxicants 275–277
 - ischemic neuromyopathy 294
 - mentation 253, 258–259
 - metabolic disorders 295–296
 - myopathies 294, 296
 - neurotrauma 259–263
 - overviews 253–270
 - peripheral 256, 293–298
 - rabies 271, 274, 287
 - secondary surveys 253–256
 - secondary to metabolic disorders 295–296
 - seizures 264–268, 271, 272–274
 - sodium abnormalities 277–278
 - spinal assessments 283–285
 - spinal cord 256, 262–263, 283–291
 - stabilization 259–261
 - stupor 275
 - thiamine deficiency 271, 273–275, 279
 - toxins 267–270, 271, 273–277, 295
 - trauma 256, 259–263, 288–290, 293–294
 - unique features in cats 253, 271, 283, 293
 - urinary system dysfunctions 298
 - vascular accidents 278–279
 - vascular disease 294
 - vitamin B1 deficiency 271, 273–275, 279

- Neuromuscular blockade 46–47
- Neuromuscular junction disorders 256
- Neuromuscular system
 - frostbite/hypothermia 513
 - peripheral nervous system 293, 295–296
- Neuromyopathy 294
- Neuropathic pain 64, 70, 496
- Neuropathy 64, 293–294, 294*t*
- Neuroprotection 17
- Neurotrauma 259–263
- Neutral protamine Hagedorn insulin
 - 353, 353*b*
- Newborns, emergencies of *see* pediatric emergencies
- Nicotinic receptors 268, 491
- Nitenpyram 463
- Nitroglycerin pastes 96, 101, 159
- Nitroprusside 101, 214, 368, 369
- N*-methyl-D-aspartate (NMDA) 58–60, 64, 69–72, 71*t*, 290
- Nociception 63–64, 66, 69–70, 185–186, 284
- Nodules 455–456, 459, 471
- Noncardiogenic edema 132
- Nonlinear corneal ulcers 437–438
- Nonregenerative anemias 323, 325, 327, 329*t*, 331–333, 342–349
- Non-steroidal anti-inflammatory drugs (NSAID)
 - critically ill cats 66, 68–72, 70*t*, 71*t*
 - heatstroke 511
 - lower airway diseases 124
 - ophthalmic emergency surgery 595
 - toxicological emergencies 488–489, 497
- Norepinephrine 14, 16, 23, 64, 68, 430, 493–494
- Normal feline reproduction 399
- Normotension 16–17
- Normoventilation 16
- Normoxemia 16
- Nose diseases 110–114, 112–113*f*
 - see also* nasal diseases
 - bacterial pathogens 110
 - chronic idiopathic rhinosinusitis 111
 - clinical signs 110, 111
 - diagnostics 110, 111, 112*f*
 - foreign bodies 111
 - fungal infections 111
 - neoplasia 111–112
 - respiratory tract complex 110–112
 - treatments 111
 - tumors 111–112
- Nostril flaring 109
- Notoedres cati* 456, 457*f*
- NSAID *see* non-steroidal anti-inflammatory drugs
- NT-proBNP *see* plasma *N*-terminal pro-B-type natriuretic peptide
- Nutritional support
 - acute abdomen 194
 - acute kidney injury 251
 - appetite stimulants 91–92
 - caloric requirement calculations 91–92
 - critically ill patients 83–92
 - diabetes mellitus 354, 361
 - diabetic ketoacidosis 361
 - diet types 91–92
 - choice of 91
 - veterinary canned diets 91
 - veterinary liquid diets 91
 - enteral nutrition 84–88, 84–88*f*, 92*t*
 - gastrointestinal conditions management 200, 201, 206
 - geriatric emergencies 429
 - glomerulonephritis 240
 - importance of 83
 - indications for 83–84
 - monitoring 92
 - parenteral nutrition 89–92, 89–90*t*
 - pediatric emergencies 418
 - reassessments 92
 - route determination 84
 - shock 19, 24
 - unique features in cats 83
- Nystagmus 255, 257–258, 271, 273, 277–279
- O**
- Obstipation 203–204
- Obstruction
 - foreign bodies 551–559
 - gastrointestinal 200–201, 203–205, 551–559
 - hepatobiliary emergency surgery 570–574
 - reproductive emergencies 401–402
 - urinary emergency surgery 560–562, 567–568
- Obstructive shock 77–78
- Obtundation 258–259
- Occult blood 214
- Ocular emergencies 433–450
 - acute blindness 443–445, 444*b*, 444–446*f*
 - anterior lens luxation 445
 - anterior uveitis 438–440, 439*b*, 439*f*
 - blindness 443–445, 444*b*, 444–446*f*
 - blood in anterior chambers 447–448, 448*f*
 - chemical injuries 445
 - cherry eye 445–446, 446*f*
 - ciliary body inflammation 438–440, 439*b*, 439*f*
 - clinical signs 433–435, 438–450
 - conjunctivitis 448–449, 448*f*, 449–450
 - corneal lacerations 446–447, 446*f*
 - corneal ulcers 434–438, 435*b*, 435–438*f*
 - diagnostics 433–435, 439–440, 444–450
 - emergency surgery 591–594
 - exophthalmos 449, 449*f*
 - eyelid lacerations 447, 447*f*
 - foreign bodies 443
 - glaucoma 440–443, 440*b*, 440–442*f*
 - hyphema 447–448, 448*f*
 - inflammation 438–440, 439*b*, 439*f*, 448–449, 448*f*
 - intraocular pressure 434, 440–441, 444, 448–450
 - iris inflammation 438–440, 439*b*, 439*f*
 - keratoconjunctivitis sicca 449–450
 - lacerations 446–447, 446–447*f*
 - monitoring 433, 436, 446–448
 - neurological examinations 433, 444–446
 - ophthalmic examinations 433–435, 438–443, 447–450
 - ophthalmic surgery 591–594
 - post-traumatic ocular sarcoma 450
 - prolapsed nictitans 445–446
 - sarcomas 450
 - surgery 591–594
 - tear production 449–450
 - tests 433–435, 439–440, 444–450
 - third eyelid 433, 438, 445–446
 - ulcers 434–438
 - unique features in cats 433
- Ocular pressure 44, 172, 434, 501, 591
- Oculomotor nerve 254–255, 275
- Olfactory nerve 254
- Oliguria 231, 239, 250, 250*t*
- Omeprazole
 - gastrointestinal conditions 196, 198, 201
 - hematologic emergencies 315
 - spinal cord 291
 - toxicological emergencies 492, 493, 504, 511
 - urologic emergencies 247
- Oncotic support 37, 37*t*
- Ondansetron 198, 200, 205–206, 247, 559
- One-way valve systems 61
- Open-mouth breathing 1–3, 25–26, 109–114, 271, 277, 483, 510
- Ophthalmic emergency surgery 591–595
 - see also* ocular emergencies
 - clinical signs 591
 - complications 595
 - diagnostics 591–592
 - enucleation 591–595, 594*f*
 - glaucoma 591–592
 - intraoperative considerations 592
 - keratostomy 591–593, 595
 - physical examinations 591
 - post-operative considerations 595
 - pre-operative considerations 591–592
 - procedural considerations 592–595
 - prognosis 595
 - tarsorrhaphy 592–595, 593*f*
 - tests 591–592
 - unique features in cats 591
- Ophthalmic examinations 433–435, 438–443, 447–450
- Opioids
 - see also* specific opioids
 - cardiopulmonary resuscitation 12, 14
 - critically ill patients 43–45, 47–51, 64–72, 69*t*

- emergency room procedures 526
 environmental emergencies 522
 gastrointestinal conditions 559
 neurologic emergencies 289–290, 299
 pediatric emergencies 419
 reproductive emergencies 405, 410, 579–580
 respiratory emergencies 93
 systemically healthy cats 55–58
 toxicological emergencies 505, 510
 trauma 28
 Optic nerve 29, 591–594, 594f
 Oral anticoagulants 166–167
 Oral cavity disease 195–196, 200
 Oral examinations 177
 Organophosphates 268–269, 295
 Organophosphorus 490–491, 490b
 Osborn deflection 513
 Osmolality, sodium 373–375
 Osmoreceptors 373
 Osmotic diuretics 232
 Osmotic therapy 260
 Osteoarthritis 72
 Otic mite preps 457, 464, 470
 Otic swabs 456
 Otitis externa 467–468
Otodectes cynotis (ear mites) 453, 464, 464f, 467, 474
 Otomax 468, 475
 Ovariohysterectomy 577, 578
 Overhydration 417–418, 420–422
 Over-the-needle catheters 526
 Over-the-wire central catheters 527
 Oxalate crystals 215–217, 494–495, 498
 Oxygenation 123, 260, 267
 Oxygen consumption (VO₂) 19, 22
 Oxygen delivery (DO₂) 19–20, 22–24
 Oxygen supplementation/therapy
 cardiogenic arterial thromboembolism 164
 drowning/submersion 516
 emergency room procedures 530
 heatstroke 511
 life-threatening heart failure 159
 lower airway diseases 125, 126t
 neonatal resuscitation 405
 Oxymorphone 67–69, 69t, 161
 Oxytocin 403
- p**
- 2-PAM *see* pralidoxime chloride
 Pacemakers 174
 Packed cell volume (PCV) 5–6, 5b, 27, 182
 Pain
 acute abdomen 185–186
 assessment 63, 65–67, 67t
 immune system 65
 physiology 63–65
 reconstructive emergency surgery 582–583, 585–586, 589
 referred pain 185–186
 shock 19, 22, 24
 stress response 64–65
 transduction 63
 transmission 64, 66, 69–70
 types 64
 acute 64
 allodynia 64
 chronic pain 64
 hyperalgesia 63, 64
 neuropathic 64
 physiologic pain 64, 65
 somatic 64
 visceral 64
 wind up 64
 Pain management 63–72
 adjunctive agents 66, 68–72, 70t, 71t, 72
 alpha₂ agonists 66, 70
 anticonvulsants 70
 choice of analgesic 66–72, 69t, 70t, 71t, 72t
 constant rate infusion 68–72, 69t, 71t
 critically ill cats 63–72
 dissociative anesthetics 69–70
 ketamine 69–70, 71t
 local analgesics 66, 70–72, 72t
 monitoring 69
 NMDA receptor antagonists 69–72, 71t
 non-steroidal anti-inflammatory drugs 66, 68–72, 70t, 72
 opioids 66–70, 69t
 regional analgesics 66, 70–72, 72t
 shock treatments 24
 snakebites 518
 systemic options 66–70, 69t
 trauma 28
 Pain scales 65–67, 67t
 2-PAM *see* pralidoxime chloride
 Pamidronate 385, 394, 489
 Pancreatic carcinoma 186
 Pancreatic lipase immunoreactivity 181
 Pancreatitis 204–205, 570–572, 574
 Panleukopenia 6, 271, 412, 421
 Pantoprazole 198
 Papules 455, 459, 464–466, 471
 Paracentesis 182, 525, 532–533
 Paradoxical central 257–258
Paragonimus 132, 142
 Paralysis 112, 114–115, 253, 255–257, 275–276, 295
 Paraquat toxicity 483
 Parasites
 dermatologic emergencies 453–456, 463–465, 470–475
 lower airway diseases 121–122
 pediatric emergencies 421
 Parasitic pneumonia 132, 141
 Parasitology 179–180, 180f
 Parasympatholytic signs 14
 Parasympathomimetic signs 295
 Parathyroid hormone (PTH) 382, 489
 Parenchymal disease *see* pulmonary parenchymal disease
 Parenteral nutrition 89–92, 89–90t
 Paresis 163–164, 256–258, 272–277, 285–288, 294–297
 Partial intravenous anesthesia (PIVA) 46
 Partial parenteral nutrition (PPN) 206
 Partial seizures 264
 Partial-thickness burn wounds 461–462
 Partial thromboplastin time (PTT) 38, 165–166, 304–307, 317–319, 486
 Parturition 400–401, 400f, 576–577
 Passive rewarming 513, 516
 PCA *see* postcardiac arrest care
 PCR *see* polymerase chain reactions
 PCV *see* packed cell volume
 PE *see* pulmonary edema
 Pediatric emergencies 417–426
 anemia 422–423
 cardiopulmonary cerebral resuscitation 424–425
 catheters 419
 emergency room procedures 527
 fluid requirements 420
 head trauma 425–426
 hypoglycemia 420–421
 hypothermia 420
 hypovolemia 421–422
 laboratory value variations 418
 neonatal alloimmune hemolytic anemia 422–423
 nutritional support 418
 physical examinations 417
 respiratory distress in newborns 424
 sepsis 422–426
 treatments 424–425
 unique features in cats 417
 urine concentrations 417–426
 viral infections 421, 422
 PEEP *see* positive end expiratory pressure
 PEG *see* polyethylene glycol
 Pelvic fractures 293–294, 294t
 Pemphigus foliaceus 468–469
 Pendular nystagmus 271, 278
 Penrose drain 460
 Pentobarbital 265
 Perforated corneal ulcers 437
 Perforation, nasopharyngeal diseases 113
 Perfusion 49–50
 Pericardial effusion 20, 525
 Pericardiocentesis 525, 534–535
 Perihilar interstitial-alveolar pattern 131
 Perineal reflex 284
 Perineal urethrostomy 560, 562–568, 563f, 565–566
 Peripheral circulation 163–164
 Peripheral nervous system/neurologic emergencies 256, 293–298
 autonomic nervous system 293–295, 297
 brachial plexus avulsion 293, 294t
 clinical signs 293–298, 294t
 diabetes 295–296

- Peripheral nervous system/neurologic emergencies (*cont'd*)
 - diagnosis 293–298
 - drug tables 299t
 - dysautonomia 297
 - emergencies 256, 293–298
 - hyperthyroidism 296
 - idiopathic inflammatory 296
 - infections 296
 - ischemic neuromyopathy 294–295
 - metabolic disorders 295–296
 - myasthenia gravis 296–297
 - myopathies 294–295, 296
 - neuromuscular system 293, 295–296
 - neuropathies 256, 293–294, 294t
 - secondary to metabolic disorders 295–296
 - sensory nervous system 293–298
 - tetanus 298
 - toxins 295
 - trauma 293–294, 294t
 - treatments 293–298
 - unique features in cats 293
 - urinary system dysfunctions 298
 - vascular disease 294–295
- Peripheral neuropathies 256, 293–294, 294t
- Peripheral parenteral nutrition (PPN) 89–90, 89t
- Peripheral thyroid hormone effect inhibitors 369
- Peritoneal dialysis 221
- Peritoneal effusion cytology 553, 571
- Peritoneal lavage 180–181, 188–189, 190f, 533
- Peritoneopericardial diaphragmatic hernia 412–413
- Peritoneum 186
- Peritonitis 208–209, 271, 273, 570–572, 574
- Periuria 223–224, 226, 230
- Permethrin toxicity 271, 275–276, 503–504, 503b
- pH, urine 214
- Pharmacology 291, 418–419, 430
- Pharyngostomy tubes 88
- Pharynx diseases 110–115
- Phenobarbital 265–266, 268, 272–273, 279
- Phenothiazine 44, 56
- Phenoxybenzamine 291
- Pheromones 544
- Phosphate/phosphorus binder 238, 384, 387–388, 392–393, 490
- Phosphorous
 - diabetic ketoacidosis 360, 361
 - electrolyte disorders 386–388
 - functions of 386
 - homeostasis 386
- Photoreceptors 444–445
- Physical therapy 167
- Physostigmine 391, 394
- Phytonadione 140, 199
- Pilocarpine 297
- Pimobendan 145, 160
- Pit viper bites 517–518
- PIVA *see* partial intravenous anesthesia
- Placentas 579
- Plant toxicity 498, 500–501
- Plaques 454, 454f
- Plasma
 - fluid therapy 76
 - heatstroke 511
- Plasma cardiac troponin 145
- Plasma N-terminal pro-B-type natriuretic peptide (NT-proBNP) 144
- Plasma osmolality 362–363, 374
- Plasma phosphorus concentration 237
- Platelet antagonists 167
- Platelet count 305–306, 308–311
- Platelets
 - anemia 332
 - critically ill cats 6–7
 - thrombocytopenia 301, 306–314, 318–319
 - thrombopathia 314–317
- Pleural effusion
 - causes 100–101
 - congestive heart failure 100
 - diagnostics 100–106
 - emergency room procedures 525, 531–534
 - respiratory emergencies 93, 96–106, 98t, 100–106, 103f
 - trauma 28
- Pleural lavage 514
- Pleural space disease 164, 533–535, 587–589
 - causes 100–105, 103–104f
 - chylothorax 104–106
 - definitions 99, 102, 104, 106
 - diagnostics 100–106
 - diaphragmatic hernia 106–107
 - drainage 103–104
 - emergent therapies 101
 - neoplasia 105–106
 - physical examinations 100–102
 - pleural effusion 99–106
 - pneumothorax 106–106
 - respiratory emergencies 93–106, 98t, 103f
 - septic pleuritis 102–104, 103–104f
 - thoracocentesis 97–98, 98b, 100–102, 105–106, 100f
 - thoracotomy 104, 105–106
 - treatments 101, 102–106, 103f
 - types 99–106, 103–104f
- Pleuritis *see* septic pleuritis
- Pleurocentesis 156, 159
- Plugs, urethral 225–226, 243, 246, 561
- Pneumonia 132–133, 133f, 135, 141–142
- Pneumothorax 106
- Poiseuille's equation 120
- Poisons *see* toxicological emergencies
- Pollakiuria 223–224, 226, 230, 243, 560, 564
- Polyethylene glycol (PEG) 198, 263
- Polymerase chain reactions (PCR) 458–459, 466
- Polymyxin B 246, 433, 435, 468, 475
- Polyps 109, 112, 257, 277, 467
- Polyuria 231, 237, 239
- Positive contrast cystograms 561
- Positive contrast radiography 552
- Positive end expiratory pressure (PEEP) 96, 516
- Positive pressure ventilation (PPV) 13
- Postcardiac arrest (PCA) care 9–10, 12b, 15–17
- Post-obstructive diuresis 249–250
- Postrenal examinations 212
- Post-traumatic ocular sarcoma 450
- Posture 254, 256, 285
- Potassium
 - chronic kidney disease 238
 - electrolyte disorders 378–382
 - functions of 378
 - gastrointestinal conditions diagnostics 183
 - homeostasis 378
 - supplementation 78–79, 78t, 359, 361, 379–380, 379t
- Potassium bromide 274
- Potassium chloride 138, 296, 368–369, 371, 379, 394
- Potassium gluconate 79, 238, 368–369, 371, 380, 394
- Potassium iodate 368–369
- Potassium phosphate 341, 357, 360, 379, 387, 395
- PPN *see* peripheral parenteral nutrition
- PPV *see* positive pressure ventilation
- Pralidoxime chloride (2-PAM) 269, 295
- Praziquantel 139, 140
- Prazosin 291
- Pre-anesthetic considerations 34, 51, 55
- Predator injury 31–32
- Prednisolone
 - dermatologic emergencies 463, 469, 474, 475
 - electrolyte disorders 385, 395
 - gastrointestinal conditions 196, 199, 203, 207
 - hematologic emergencies 314–316, 331
 - lower airway diseases 119, 126–128, 128t
 - neurologic emergencies 260–261, 289, 291, 296–297, 299
 - pulmonary parenchymal disease 140–141
 - spinal cord 290
 - urologic emergencies 241
- Prednisone
 - cardiopulmonary resuscitation 23–24
 - neurologic emergencies 261, 263, 286
 - ocular emergencies 439–440
- Prednisone acetate 439–440
- Pregnancy 399–413, 576–580
- Premature labor 412–413
- Pre-oxygenation 43
- Prerenal examinations 211–212
- Pressors, heatstroke 511

- Primaquine phosphate 335
 Primary cardiac disease 153
 Primary hemostasis 305–306, 308–311, 309–310f
 Primary idiopathic thrombocytopenia 312
 Primary platelet antagonists 167
 Primary renal examinations 212
 Primary surveys 1–2, 4–5, 4b, 5
 Proactive behavior 541, 542f, 546
 Procainamide 173
 Proestrus 399
 Pro-inflammatory response 541–543
 Prokinetics 197–200, 203–206, 559
 Prolapse, rectal 204
 Prolapsed nictitans 445–446
 Prolonged expiration, wheezes, and cough 98–99
 Propanteline bromide 175t
 Prophylactic antimicrobials 562
 Prophylactic antithrombotic therapies 165–167
 Propofol
 anesthesia 45, 49–51, 55, 58–60
 geriatric emergencies 428
 hematologic emergencies 337
 lower airway diseases 123
 neurologic emergencies 266, 268, 272, 275, 279
 reproductive emergencies 403–404, 578
 respiratory emergencies 93, 95–96
 seizures 266
 systemically healthy cats 59
 Propranolol 157, 159, 172–173, 368, 369, 502
 Proprioception 284, 284t, 285t
 Proptosis 441–443, 441–442f
 Prosencephalic disease 271
 Prostaglandins 63, 199, 225, 407–409, 412, 441
 Protamine zinc insulin (PZI) 353, 353b
 Protein-creatinine ratio 215–216
 Proteins
 nutritional support 83, 89–91
 in urine 214–216
 Proteins induced by vitamin K absence or antagonism 311f, 317
 Proteinuria 226, 236, 237, 239
 Prothrombin time tests 307
 Protozoal pneumonia 122, 132, 141
 Pruritus 453–471, 465f, 473t, 475t
 Pseudohyperkalemia 380
 Pseudohyponatremia 373–374
 Psyllium 199
 PTH *see* parathyroid hormone
 PTT *see* partial thromboplastin time
 Ptyalism 274–275, 279
 Pudendal nerve 294, 298
 Pulmonary contusion 26–28, 30, 134, 142, 562, 583
 Pulmonary edema (PE) 93, 96–98, 101, 131–135, 138, 142, 265, 510, 515–516
 Pulmonary function tests 124
 Pulmonary infection 21
 Pulmonary parenchymal disease 131–142
 central nervous system 136, 138–140
 clinical signs 132
 diagnostics 131–142
 complete blood counts 134–135
 cytology 135
 edema 132–133
 imaging 133–134
 lung aspirate 135
 lung biopsy 135
 pneumonia 132–133
 pulse oximeters 135
 etiology 132–134
 imaging 133–134
 management 135
 physical examinations 131–132
 respiratory emergencies 94–99, 105–106
 treatments 135–142
 atelectasis 142
 drowning/submersion 142
 drug reactions 142
 drug table 136–140t
 edema 142
 hemorrhage 142
 lung lobe torsion 142
 neoplasia 142
 pneumonia 135, 141–142
 thromboembolism 142
 toxins 142
 unique features in cats 131
 Pulmonary tumors 122
 Pulse oximeters 11, 42, 124, 135
 Pupillary light response 254–255, 258
 Pure red cell aplasia 345–345
 Pustules 455, 459, 468–469, 471
 Pyelograms 219, 219f
 Pyelonephritis 238
 Pyometra 186, 406–408, 576–580
 Pyrantel 200, 202, 421–422
 Pyrethrins 267–268, 275–276, 295, 503–504
 Pyrethroids 267–268, 295, 503–504
 Pyridostigmine 297, 299
 Pyrimethamine 140
- q**
 Quadrant paracentesis 180–182, 533
 Quick Reference CPR IO 12
- r**
 Rabies 271, 274, 287
 Radiocontrast agents 246
 Radiography
 acute abdomen 188, 192
 acute kidney injury 244
 arterial thromboembolism 147
 cardiogenic arterial thromboembolism 164
 clinical examinations 154–155, 155f
 congestive heart failure 144
 critically ill patients 39
 dystocia 402
 feline idiopathic cystitis 224
 gastrointestinal conditions 177–181, 178f, 195–196, 200–201, 203, 205, 208
 gastrointestinal emergency surgery 551–553, 552–553f
 geriatric emergencies 428–429
 glomerulonephritis 239
 hepatobiliary emergency surgery 571
 laryngeal diseases 114
 lower airway diseases 121
 pediatric emergencies 418
 pyometra 406–407
 reconstructive emergency surgery 583–584
 reproductive emergency surgery 576, 577, 577f
 respiratory emergencies 96–106, 103f
 spinal cord 262, 286, 287t
 trauma 32
 ureteral obstruction 231–232
 urethral obstruction 226, 229
 urethral tear 230
 urinary emergency surgery 561
 urologic emergencies 216–217
 uroperitoneum 235
 Ranitidine 199
 Rapid physical examinations 3–4
 Rapid sequence induction (RSI) 45
 Rapid, shallow breathing with abdominal component and dull sounds 97–98, 98b
 Rapid, smooth, shallow breathing with crackles 96–97
 Rapid ventricular response rate 149
 Rattlesnake bites 517–518
 RCM *see* restrictive cardiomyopathy
 Reactive, defensive behavior 542, 542f
 Reassessment Campaign on Veterinary Resuscitation (RECOVER) 9
 Rebound tonometry 434
 Rebreathing 61
 Recluse spider bites 505, 505b, 520–521
 Reconstructive emergency surgery 582–589
 abdominal wall hernia 584, 587
 abscesses 582–586
 amputation 585–586, 588–589, 588f
 caudectomy 585–586, 588–589, 588f
 clinical signs 582–583
 coccygeal trauma 582–583, 588–589
 complications 589
 diagnostics 583–584
 diaphragmatic hernia 582–589, 584f
 hernias 582–589, 584f
 imaging 583, 584
 intraoperative considerations 586
 physical examinations 582–583
 post-operative considerations 589
 pre-operative considerations 584–586

- Reconstructive emergency surgery (*cont'd*)
 procedural considerations 586–589
 prognosis 589
 sacrococcygeal trauma 582–583, 589
 tests 583–584
 trauma 582–589
 unique features in cats 582
 wounds 582–589
- RECOVER *see* Reassessment Campaign on Veterinary Resuscitation
- Rectal prolapse 204
- Rectal temperature probe 512–513, 512*f*
- Recurrent bacterial cystitis 230
- Recurrent corneal ulcers 437–438
- Red cell aplasia 345
- Referred pain 185–186
- Reflexes, spinal cord 284–285, 285*t*
- Refractory heart failure 160
- Refractory seizures 272
- Regenerative anemia 324–337, 329*t*, 342
- Regional analgesics 46, 66, 70–72, 72*t*
- Regurgitation 196, 200
- Remifentanyl 68, 69*t*
- Renal biopsies 220, 241, 244
- Renal blood flow 428
- Renal failure
 acute 156, 243, 339, 391, 495–496, 520
 anemia 344–345
 chronic disease 212, 215, 217, 220, 344–345, 362, 378–380, 391
- Renal function 235
- Renal losses 387
- Renal replacement therapies 251
- Renal system
 anesthesia 57, 60
 frostbite/hypothermia 513
 heatstroke 510
 pediatric emergencies 418, 422
 trauma 29–30
- Reproduction
 estrous cycle 399, 400*b*
 eutocia 400–401, 400*f*
 parturition 400–401, 400*f*, 576–577
 pregnancy diagnosis 399–400
- Reproductive emergencies 399–413
 abortion 412–413
 anesthesia 403–404
 cesarean section 401*b*, 403–404, 412, 424, 578–579
 clinical signs 576–577
 complications 580
 diagnostics 577
 dystocia 401–404, 401*b*, 401–402*f*, 403*b*
 eclampsia 410–411, 411*b*
 ectopic pregnancy 412
 endometritis 409
 fibroadenomatoid hyperplasia 411–412, 411*f*
 hernias 412–413
 hyperplasia 411–412, 411*f*
 hysterotomy 404
 intraoperative considerations 588
 lactational disorders 410–412, 411*b*, 411*f*
 mastitis 410
 neonatal resuscitation 404–406
 peritoneopericardial diaphragmatic hernia 412–413
 physical examinations 576–577
 post-operative considerations 579–580
 premature labor 412–413
 pre-operative considerations 577–578
 procedural considerations 578–579
 prognosis 579–580
 pyometra 406–408
 surgery 576–580
 tests 577
 unique features in cats 399
 uterine pathologies 406–412
 uterine prolapse 408–409
 uterine torsion 409–410
- RER *see* resting energy requirement
- Resection 557–558, 557*f*
- Respiratory care 16
- Respiratory emergencies 93–106
see also respiratory system
 antibiotics 97, 97*t*
 assessments 93–95, 94*f*
 breathing 93–102
 hypoventilation 99
 loud 94–96
 prolonged expiration, wheezes, and cough 98–99
 rapid shallow with abdominal component and dull sounds 97–98, 98*b*
 rapid, smooth, shallow with crackles 96–97
 clinical signs 93–95
 diagnostics 96–106, 103*f*
 distress in 424, 525, 530–534
 emergency room procedures 525, 530–534
 flow charts 94*f*, 95
 hypertension 125–126, 136–137, 140
 hypotension 95, 101–102, 120
 initial assessments 93–95, 94*f*
 lower airways 94–95, 98–99
 pediatric emergencies 424
 physical examinations 93–95, 100–102
 pleural effusion 93, 96–106, 98*t*, 100–106, 103*f*
 pleural space disease 93–106, 98*t*, 103–106, 103*f*
 pulmonary edema 93, 96–98, 101, 132–133, 142
 pulmonary parenchyma 94–99, 105–106
 radiography 96–106, 103*f*
 telephone triage 93
 thoracic radiographs 96–97
 thoracocentesis 97–98, 98*b*, 100–106, 100*f*
 thoracostomy tubes 97–98, 98*b*, 103–104, 106
 tracheostomy 95–96, 95*b*
 triage 93
 ultrasound 99–100, 102–103, 103*f*, 105–106
 unique features in cats 93
 upper airways 93–99
 ventilation 96, 98–99
 waiting room triage 93
- Respiratory system
 anesthesia 36, 42–49, 49*t*, 56–61
 assessments 3, 4, 4*b*
 critically ill patients 36, 42–49, 49*t*
 frostbite/hypothermia 513
 heatstroke 510
 respiratory function 164
 respiratory patterns 119–120
 respiratory tract complex 110–112
 systemically healthy cats 56–61
 trauma 26
 waiting room triage 3
- Resting energy requirement (RER) 84, 89–90, 89–90*t*, 92
- Restraint procedures 525–526, 528, 542–549
- Restrictive cardiomyopathy (RCM) 155, 157–160
- Reticulocyte counts 326, 327*f*
- Retinal detachment 443–445
- Retinal pigment epithelium 444–445
- Retrobulbar abscess 449, 449*f*
- Retrobulbar mass 449
- Return of spontaneous circulation (ROSC) 9, 11–13, 15–17
- Rewarming 22–23, 23*f*, 513–515, 516
- Rhinitis 111–112, 537
- Rhinocopy 111–114
- Right ventricular cardiomyopathy 153, 155
- Rivaroxaban 148, 166
- Robenacoxib 69, 70*t*, 290
- Rodenticides
 bleeding 310–313, 317–318
 toxicity 295, 485–489, 485*b*, 506
- Rodent ulcers 454–455
- Ropinirole ophthalmic drops 481
- ROSC *see* return of spontaneous circulation
- Roundworms 421
- RSI *see* rapid sequence induction
- Rule of 20 34, 35*t*
- Rule-Out Lists 10, 11*b*
- Rutin 105
- S**
- Sacrocaudal fractures 294
- Sacrococcygeal trauma 582–583, 589
- Saddle thromboembolism 161, 161*f*, 165
- S-adenosylmethionine 199
- Safely wrapping cats in towels 545–546, 545*f*
- Salicylate toxicity 504, 504*b*
- Saline
 hypertonic 27–29, 76–77, 260, 267, 273–275, 523
 in-saline agglutination test 326–327

- Salinomycin 295
- Saltwater drowning/submersion 509, 515–517
- Sarcomas 450
- Sarcopenia 429
- Sarcoptes scabiei* 456, 457f, 475
- Scaling, dermatologic emergencies 454, 457f, 458, 464–468, 465f
- Schiff-Sherrington 254, 285
- Schirmer tear test 433
- Sciatic nerve 46, 71, 294
- Scintigraphy 571
- SDMA *see* symmetric dimethylarginine
- Seasonal anestrus 399
- Secondary cardiac disease 153
- Secondary hemostasis 306–313, 310–311f, 317
- Secondary surveys 1–2, 5, 5b, 253–256, 303
- Secondary to metabolic disorders 295–296
- Sedation/sedatives
- cardiopulmonary resuscitation 13
 - critically ill cats 42–46, 44–45t
 - gastrointestinal conditions management 195
 - laryngeal diseases 114
 - minimal-stress handling 549
 - pleural space disease 101–102
 - systemically healthy cats 56–58, 57t
 - urethral obstruction 228
- Seizures 264–267, 271, 272–274
- classification 264
 - diagnostics 273
 - etiology 265–266
 - pathophysiology 263–264
 - pediatric emergencies 426
 - treatments 265–267, 272–274
- Selamectin 463–465, 475
- Selective serotonin reuptake inhibitors 504–505
- Sensation, spinal cord 284t
- Sensitivity, dermatologic emergencies 459, 463–464, 467, 468, 471
- Sensitization, analgesia in critically ill cats 63–64
- Sensory nervous system 293–296
- Sepsis, pediatric emergencies 422–426
- Septic effusion 191
- Septic peritonitis 208–209, 551, 553–559, 555f
- Septic pleuritis 102–104, 103–104f
- causes 102
 - clinical signs 102
 - definitions 102
 - diagnostics 102–103
 - etiology 102
 - physical examinations 102
 - thoracotomy 104
 - treatment 102–104, 103f
- Septic shock 19–23
- Sequestration, bleeding 313
- Sequestrum, ocular emergencies 438, 438f
- Serotonin syndrome 68, 504, 507
- Serum trypsin-like immunoreactivity (FTLI) 181
- Severe drug-induced Heinz bodies 337–338, 338f
- Sevoflurane 45, 60, 403, 506
- Shallow breathing 96–98, 98b
- Shivering reflex 420, 492, 512–513
- Shock 19–24
- antibiotics 23
 - blood products 24
 - catecholamines 22–23
 - categories 19–22
 - cardiogenic shock 19–20
 - distributive shock 21–22
 - hypovolemic shock 20–21
 - clinical signs 19–22, 25
 - definition 19
 - etiology 20–21
 - fluid therapy 22–23, 75–78, 77t, 78t
 - frostbite/hypothermia 514
 - glucocorticoids 23–24
 - glycemic control 24
 - goals of therapy 22
 - hypothermia 19–20, 22
 - nutrition 19, 24
 - oxygen consumption 19, 22
 - oxygen delivery 19–20, 22–24
 - pain 19, 22, 24
 - pain management 24
 - rewarming 22–23, 23f
 - spinal cord 285
 - treatments 22–25
 - unique features in cats 19
- Shockable rhythm 15
- Short-bowel syndrome 559
- Silver sulfadiazine 31, 461–462, 468
- Silymarin 339
- Single enterotomy catheters 551, 556–557
- Single paracentesis 532–533
- Sinus node disturbances 169–171, 174
- Sinus tachycardia 169–170, 174
- SIRS *see* systemic inflammatory response syndromes
- Skeletal radiographs 583
- Skin, toxicological emergencies 480, 485, 492, 501–503
- Skin biopsies 455, 459, 468, 470–471
- Skin cytology 453, 455–456, 465, 469, 471
- Skin diseases *see* dermatologic emergencies
- Skin scrapings 453, 456–457, 457f, 464–466, 470–471
- Smoke inhalation 122–123
- Snakebites 509, 517–519
- coral snakes 518–519
 - Pit vipers 517–518
 - rattlesnake bites 517–518
- SNAP™ Feline proBNP test 144
- Sneezing 110–114, 260, 448
- Sodium
- concentration of IV fluids 377
 - correction calculation 363
 - disorders 373–378
 - brain 277–278
 - hypernatremia 375–378
 - hyponatremia 373–375
 - functions of 373
 - homeostasis 373
 - hypernatremia 375–378
 - hyponatremia 373–375
 - kidneys 373
 - neurologic emergencies 277–278
 - osmolality 373–375
 - regulation 373
- Sodium bicarbonate
- acute kidney injury 248–249
 - anesthesia 51
 - cardiopulmonary resuscitation 12, 14–15
 - diabetes mellitus 356–357, 360–361
 - hypercalcemia 385
 - hyperkalemia 381
 - pediatric emergencies 425
 - supplementation 79, 360–361, 376, 381–386
 - toxicological emergencies 482, 504, 507
 - urethral obstruction 227
 - urologic emergencies 227, 239
- Sodium phosphate enemas 496–497
- Sodium–potassium ratio 367, 369–370
- Sodium sulfate 499
- Somatic pain 64
- SOP *see* standard operating procedures
- Sorbitol 267, 481–482
- Sotalol 173
- Spastic paralysis/paresis 256
- Specific gravity 223–224, 230, 236, 240
- Spider bites 505, 509, 520–522
- black widow spiders 509, 521–522
 - brown recluse spiders 505, 505b, 520–521
- Spina bifida 286
- Spinal cord
- assessments 283–285
 - degeneration 286
 - diagnostics 262, 283–290
 - differential diagnosis 286–290
 - drug tables 290–291t
 - etiology 261
 - fractures 288–289
 - imaging 262
 - infections 286, 287
 - inflammation 286, 287
 - localization 285
 - luxation 288–289
 - malformation 286
 - neurologic emergencies 256, 262–263, 283–291
 - pathophysiology 261–262
 - rabies 287
 - trauma 256, 262–263, 288–289
 - treatments 262–263, 290–291
 - unique features in cats 283

- Spinal reflexes 256
 - Spinal shock 285
 - Spironolactone 160
 - Splenectomy 331–332
 - Sponge counts 562, 571
 - Sporadic bacterial cystitis 230
 - Stain tests 179–180, 434
 - Standard operating procedures (SOP) 9, 17
 - Stapled intestinal anastomosis 551, 554–559
 - Status epilepticus 264, 272
 - STE *see* systemic thromboembolism
 - Stenosis 112–113, 116
 - Stenotic nares 109, 110*f*
 - Stenting 232, 570–574, 573*f*
 - Sternal recumbency 565–566
 - Stertor 109
 - Stinging insects 505, 505*b*, 519–522
 - Stomatitis 140, 195–196
 - Stool softener 197–198, 204
 - Strabismus 254–258, 272
 - Stranguria 223–224, 226, 230, 234
 - Streptokinase 165, 246, 294
 - Stress handling 55, 541–549
 - Stress leukogram 121, 352, 371, 516, 519
 - Stress response 64–65
 - Stretch reflexes 284, 285*t*
 - Stricture 112–113, 116
 - Stridor 109, 110*f*
 - Struvite crystals/uroliths 215, 246, 561
 - Strychnine toxicity 506, 506*b*
 - Stupor 258–259, 275
 - Subconjunctival ophthalmic emergency surgery 593
 - Subcutaneous fluid administration 525, 537
 - Sublingual region evaluation 187
 - Submersion injury 132–133, 142
 - Succimer 269, 499
 - Sucralfate 196, 199, 247, 493, 511
 - Suction drain 193, 407, 488
 - Sulfonamides 140–141, 246, 250, 299, 419, 475
 - Superficial ulcers 435–436
 - Superheated air/steam 123
 - Supraventricular tachycardias 170–173, 173*f*, 173*t*
 - cardiac disease 157
 - cardiac emergencies 146–148
 - diabetes mellitus 359–360
 - electrolyte disorders 389–390
 - Surfactant levels 123, 424, 492, 515
 - Surgery
 - acute abdomen 192–193, 193*f*
 - cardiogenic arterial thromboembolism 165
 - chylothorax 105
 - dystocia 403–404
 - gastrointestinal emergency surgery 551–559
 - hepatobiliary emergency surgery 570–574
 - nasopharyngeal diseases 113
 - ophthalmic emergency surgery 591–595
 - pyometra 407
 - reconstructive emergency surgery 582–589
 - reproductive emergency surgery 576–580
 - traumatic emergencies 582–589
 - urinary emergency surgery 560–568
 - uroperitoneum 236
 - Sutures 554–556, 562–565, 586–588
 - Symmetric dimethylarginine (SDMA) 244
 - Sympathetic nervous system 25, 64, 297, 367, 421, 490
 - Sympathomimetics 49, 157, 175, 295
 - Syncope 146, 149, 159, 169, 174, 488
 - Synthetic colloid solutions 76–77
 - Systemically healthy cats, anesthesia 55–61
 - Systemic inflammatory response syndromes (SIRS) 21, 21*t*
 - Systemic thromboembolism (STE) 159, 161, 161*f*, 165
 - Systemic toxicosis (massive envenomation) 520
 - Systolic pressure 525, 528–529
- t**
- Tachyarrhythmias/tachycardias
 - cardiac emergencies 143, 146–149, 154, 157–159
 - cardiopulmonary resuscitation 16
 - cardiovascular 120
 - diabetes mellitus 359–360
 - diabetic ketoacidosis 359
 - environmental emergencies 513–523
 - fluid therapy 75, 78
 - hematologic emergencies 301, 323, 341
 - life-threatening 169–175, 173*t*
 - management 125, 128, 140
 - peripheral nervous system 294–295, 299
 - shock 19–21
 - toxicological emergencies 479, 483–485, 489–491, 500–502, 506–507
 - trauma 19–21, 27
 - urologic emergencies 211, 233–234
 - Tactile placing and hopping 254, 284
 - Tamsulosin 291
 - Tapazole reaction 470
 - Tape impressions 456, 458, 458*f*
 - Tarsorrhaphy 592–595, 593*f*
 - Taurine 160
 - TCA *see* tricyclic antidepressants
 - Tear production 449–450
 - Tear tests 433
 - Tea tree oil toxicity 501–502
 - Technical procedures in the ER 525–538
 - Telazol 59
 - Telephone triage
 - calming owners 2
 - critically ill cats 1–2, 2*b*
 - first aid advice 2
 - immediate aims of 1–2
 - respiratory emergencies 93
 - symptoms to determine 2*b*
 - toxicological emergencies 479
 - Temperature probe 512–513, 512*f*, 515
 - Temporary keratostomy 591–593, 595
 - Temporary tarsorrhaphy 592–595, 593*f*
 - Tenesmus 177, 202, 204
 - Tension pneumothorax 16
 - Terbinafine 466, 475
 - Terbutaline 140, 175*t*, 381
 - Tetanus 298
 - Tetracycline 139, 246, 334, 419
 - 9-Tetrahydrocannabinol (THC) 501
 - Tetraparesis 295
 - Texas coral snake bites 518–519
 - T-FAST *see* thorax focused assessment with sonography for trauma
 - Th2 cells 120
 - THC *see* 9-tetrahydrocannabinol
 - Theobromine 502, 502*b*, 502*f*
 - Theophylline 175*t*
 - Thermal injury 460–462, 522–523
 - Thermazene 461
 - Thermoregulation 58
 - Thiamine deficiency 199, 271, 273–275, 279
 - Thiopental 419, 578
 - Third eyelid 433, 438, 445–446, 593
 - Third space loss 20
 - Thoracic radiography
 - acute abdomen 192
 - arterial thromboembolism 147
 - cardiac disease 144, 154–155, 155*f*
 - congestive heart failure 144
 - pulmonary parenchymal disease 133
 - reconstructive emergency surgery 583–584
 - respiratory emergencies 96–97
 - Thoracocentesis
 - congestive heart failure 145
 - emergency room procedures 525, 533–534
 - pleural space disease 97–98, 98*b*, 100–106, 100*f*, 101
 - Thoracostomy 97–98, 98*b*, 103–104, 106
 - Thorax focused assessment with sonography for trauma (T-FAST) 38–39, 153, 156, 531–532, 531–532*f*
 - Thrombin time (TT) tests 307–308
 - Thrombocytopenia 38, 136, 142, 186, 301, 304–314, 318–319
 - Thromboelastography 135, 304
 - Thromboembolism *see* arterial thromboembolism; systemic thromboembolism
 - Thrombopathia 314–317
 - Thrombosis 308, 319
 - Through-the-needle catheters 526–527
 - Thyroid storm 367–369
 - cardiovascular system 367
 - causes 367

- clinical pathology 367–368
- clinical presentation 367–368
- definition 367
- diagnostics 368
- drug tables 368–369
- hepatic dysfunction 367
- treatments 368–369
- unique features in cats 367
- Thyroxine 357, 385
- Ticarcillin/clavulanate 23, 97*t*, 140*t*
- Ticks 295, 335–336
- Tidal breathing 124
- Tiletamine 59
- Timentin 23
- Timolol 441, 448
- Tissue perfusion 27–28
- Tissue plasminogen activator (tPA) 165, 294, 448
- TLI *see* trypsin-like immunoreactivity
- Toad toxicity 295
- Tobramycin 442, 468, 475
- Tongues, foreign body anchors 551, 556
- Tonometry 434
- Tooth root abscesses 449
- Topiramate 274
- Total intravenous anesthesia (TIVA) 46
- Total iron binding capacity (TIBC) 343
- Total parenteral nutrition (TPN) 205
- Total solids 5, 37, 200, 272, 302, 441
- Toxascaris leonina* 180*f*
- Toxic epidermal necrolysis 470
- Toxicological emergencies 479–507
 - activated charcoal 481–482, 487, 489, 494, 498, 500, 503, 505–507
 - cardiopulmonary resuscitation 16
 - clearance 482, 482*b*
 - decontamination 480–497, 482*b*, 501–507
 - diagnostics 479, 484–507
 - emesis 480–481, 485–489, 492–495, 498–502, 505–507
 - emetics 480–482, 480*b*, 490, 493, 501, 503
 - enemas 482, 496–499
 - exposure assessments 480, 484–504
 - gastrointestinal system 480–489, 492–502, 505–507
 - information sources 480
 - skin 480, 485, 492, 501–503
 - treatments 480–507
 - unique features in cats 479
- Toxicosis (massive envenomation) 520
- Toxins
 - anemia 339–340
 - brain 271, 273–277
 - cardiopulmonary resuscitation 16
 - central nervous system 267–270, 295, 298, 299, 480, 485–501
 - neurologic emergencies 267–270, 271, 273–277, 295
 - peripheral nervous system 295
 - pulmonary parenchymal disease 133
 - smoke inhalation 123
 - toxicological emergencies 479, 485–504
 - treatments 142
- Toxocara* 180*f*
- Toxoplasma gondii* 135, 140, 141, 273, 287, 296, 438
- tPA *see* tissue plasminogen activator
- Tracheal diseases 115–117
 - clinical signs 115, 116
 - collapse 116
 - diagnostics 115–116, 116*f*
 - foreign bodies 115
 - mass lesions 116–117
 - prognosis 117
 - stenosis 116
 - stricture 116
 - treatments 116–117
- Tracheal trauma 116
- Tracheostomy 95–96, 95*b*
- Trach kit 96
- Tramadol 68, 290
- Transduction, pain 63
- Transfusion
 - anemia 332
 - anesthesia 37, 37*t*
 - bleeding 302–303
 - reactions 21, 24, 38, 302–303, 332
- Transient diabetes mellitus 354–355
- Transient myocardial thickening 155
- Transpalpebral ophthalmic emergency surgery 593–594, 594*f*
- Transplantation, renal 251
- Transudates 98–101, 182, 189–191, 235, 533
- Trauma 25–32, 582–589
 - abdominal wall hernia 584, 587
 - abscesses 582–586
 - amputation 585–586, 588–589, 588*f*
 - auscultation 26
 - bite wounds 31–32
 - blood pressure 25, 27–32
 - cardiopulmonary resuscitation 16
 - cardiovascular system assessments 26–28
 - caudectomy 585–586, 588–589, 588*f*
 - clinical signs 25, 582–583
 - coccygeal trauma 582–583, 588–589
 - complications 589
 - definitions 25
 - dermatologic emergencies 453–462, 466–467, 470–472, 475
 - diagnostics 26, 29, 583–584
 - diaphragmatic hernia 582–589, 584*f*
 - dryer injury 31
 - emergency surgery 582–589
 - fan-belt injuries 31
 - fluid therapy 27–28
 - head trauma 259–260, 275, 425–426
 - hernias 582–589, 584*f*
 - high-rise syndrome 30
 - intraoperative considerations 586
 - neurologic emergencies 259–263, 293–294, 294*t*
 - neurologic system assessments 28–29
 - neuropathies 293–294, 294*t*
 - observation 26
 - peripheral nervous system 293–294, 294*t*
 - physical examinations 26–27, 28–29, 582–583
 - physiologic response 25–26
 - post-operative considerations 589
 - predator injury 31–32
 - pre-operative considerations 584–586
 - procedural considerations 586–589
 - prognosis 589
 - radiography 32
 - reconstructive surgery 582–589
 - renal system assessments 29–30
 - respiratory system assessments 26
 - sacroccygeal trauma 582–583, 589
 - shock 21
 - spinal cord 256, 262–263, 288–289
 - surgery 582–589
 - tests 583–584
 - trauma 582–589
 - treatments 26–30
 - types 30–32
 - unique features in cats 25, 582
 - uroabdomen treatments 30
 - wounds 582–589
- Trazodone 549
- Trazodone hydrochloride 58
- Tremors 60, 254, 258, 268–270, 275–277, 294–296
- Tresaderm 464, 468, 476
- Triaditis 195, 204
- Triage
 - cardiogenic arterial thromboembolism 163–164
 - critically ill cats 1–4, 2*b*
 - electrical injuries/electrocution 523
 - head trauma 275
 - minimal-stress handling 541, 543–544
 - respiratory emergencies 93
 - telephone triage 1–2, 2*b*, 93, 479
 - toxicological emergencies 479
 - waiting room triage 2–4, 2*b*, 93
- Triamcinolone acetonide 476
- Trichogram 453, 457–458, 457*f*, 466
- Tricyclic antidepressants (TCA) 506–507
- Trifluridine 436, 449
- Trigeminal nerve 255
- Trilostane 367, 368, 372
- Trimethoprim-sulfa 140, 141, 246
- Tris-EDTA 473, 476
- Tritrichomonas* 180, 421
- Trochlear nerve 255
- Troponins 145, 154
- Tru-cut biopsies 220–221
- Trypsin-like immunoreactivity (TLI) 181, 203
- TT *see* thrombin time tests
- Tumors 111–112, 122, 286
- Type-2-like diabetes 351–364

u

- UCM *see* unclassified cardiomyopathy
- Ulcers
- dermatology 454–455, 454f, 459–461, 467–468
 - gastrointestinal 201–202
 - ocular emergencies 434–438
 - ophthalmic emergency surgery 591, 595
- Ultrasound
- acute abdomen 188, 192
 - acute kidney injury 244
 - cardiac disease 153, 156, 158f
 - cardiogenic arterial thromboembolism 164
 - chronic kidney disease 231
 - congestive heart failure 144–145
 - dystocia 402
 - emergency room procedures 531–532
 - feline idiopathic cystitis 224
 - focused cardiac 144–145, 153, 156, 158f
 - gastrointestinal conditions 181, 201, 208
 - gastrointestinal emergency surgery 552–553, 553f
 - glomerulonephritis 240
 - hepatobiliary emergency surgery 571
 - ocular emergencies 434
 - reconstructive emergency surgery 583, 584
 - reproductive emergency surgery 577, 577f
 - respiratory emergencies 99–100, 102, 103f, 105–106
 - ureteral obstruction 230
 - urethral obstruction 226, 228
 - urinary emergency surgery 561
 - urologic emergencies 216–217, 561
 - uroperitoneum 234
- Unclassified cardiomyopathy (UCM) 153, 155, 157–160
- Undiluted abdominal effusion 191–192
- UNESP-Botucatu MCPS pain scale 66, 67t
- Unfractionated heparin 163–164, 320, 332, 368–369
- Upper airway disease 109–117
- clinical signs 110–112, 114–115
 - diagnostics 110–116, 112f, 113f, 116f
 - history 109–110
 - laryngeal diseases 114–115
 - nasal diseases 110–112
 - nasopharyngeal diseases 112–114
 - obstruction 42, 48–49
 - pharynx 110–115
 - physical examinations 109–110
 - respiratory emergencies 93–99
 - tracheal diseases 115–117
 - treatments 111–117
 - unique features in cats 109
- Upper GI series evaluation 179
- Upper motor neuron signs 256, 284, 298, 486
- Upper urinary surgery 568
- Uremia 237–238
- Ureteral obstruction 230–233, 560, 568
- Ureteral tear 233–234
- Ureterolithiasis 230
- Ureteronephrectomy 233
- Ureterotomy 233
- Ureters 217, 223, 226, 230–234, 239
- Urethral catheters 212–213, 227, 525, 535–537
- Urethral emergencies 212, 223–242
- Urethral obstruction 225–229, 560–562, 567–568
- anesthesia 51–52
 - coccygeal epidural 525, 535–537
- Urethral plugs 225–226, 243, 246, 561
- Urethral tear 229–230
- Urethrocystogram 561
- Urethrogram 218, 224–225, 229
- Urethrostomy 560–568, 563f
- Urinalysis
- acute kidney injury 244
 - bacterial cystitis 230
 - chronic kidney disease 231
 - diabetes mellitus 352–353
 - emergency surgery 560–561, 568
 - feline idiopathic cystitis 224
 - glomerulonephritis 240
 - pyometra 406
 - ureteral obstruction 231
 - ureteral tear 234
 - urethral obstruction 226
 - urologic emergencies 214–215, 560–561, 568
 - uroperitoneum 234
- Urinary bladder
- management 290, 291t
 - neurologic emergencies 284, 285t, 298
 - peripheral nervous system 298
 - spinal cord 284, 285t, 290, 291t
 - urinary emergency surgery 560–568
 - urologic emergencies 217, 223–242
- Urinary catheter placement 525, 535–536
- Urinary emergency surgery 560–568
- azotemia 560, 562, 567–568
 - clinical signs 560–561
 - complications 568
 - cystectomy 565, 566f
 - cystostomy 562, 564–567, 564f, 566f
 - diagnostics 560–561, 568
 - intraoperative considerations 562–564, 563f
 - perineal urethrostomy 560, 562–568, 563f
 - physical examinations 560–561
 - post-operative considerations 567–568
 - pre-operative considerations 561–562
 - procedural considerations 564–567, 564f, 566f
 - prognosis 567–568
 - sternal recumbency 565–566
 - sutures 562–565
 - tests 560–561, 568
 - unique features in cats 560
 - upper surgery overview 568
 - ureteral obstruction 560, 568
 - urethral obstruction 560–562, 567–568
 - urethrostomy 560–568, 563f
 - urinalysis 560–561, 568
 - urinary tract disease 560–562, 568
 - uroliths 560–564, 567–568
 - uroperitoneum 560–562, 564, 567–568
- Urinary tract disease 560–562, 568
- Urinary tract system 3, 4b, 5, 51–52
- Urine concentrations 417–426, 428
- Urine culture and sensitivity 215, 224, 230, 231, 244
- Urine output 187, 221, 247
- Urine pH 214
- Urine sediments 214–215
- Urine specific gravity (USG) 223–224, 230, 236, 240
- Uroabdomen 30
- Urogenital system, causes 186
- Urography 191–192, 218–219, 231, 235, 561
- Uroliths 226, 560–564, 567–568
- Urologic emergencies 211–242, 560–568
- abdominal ultrasound 216–217
 - acute chronic kidney disease 232, 236–239
 - antegrade pyelograms 219, 219f
 - azotemia 223, 226–227, 229, 230–242, 560, 562, 567–568
 - bacterial cystitis 230
 - biopsies 220
 - bladder 217, 223–242
 - chronic kidney disease 231, 236–239
 - clinical signs 211–212, 224, 560–561
 - clinicopathology 211–212
 - complications 568
 - computed tomography 219
 - contrast cystograms 218
 - cystectomy 565, 566f
 - cystitis 223–225, 230
 - cystocentesis 213–214
 - cystograms 218–219
 - cystoscopy 225
 - cystostomy 562, 564–567, 564f, 566f
 - definitions 223
 - diagnostics 211–222, 224–242, 560–561, 568
 - dialysis 221–222
 - disease conditions 223–242
 - feline idiopathic cystitis 223–225
 - fine-needle aspiration 220
 - general approach 211–222
 - glomerulonephritis 240–242
 - hemodialysis 222
 - histopathology 220
 - intraoperative considerations 562–564, 563f
 - monitoring 211–222
 - perineal urethrostomy 560, 562–568, 563f

- peripheral nervous system 298
 peritoneal dialysis 221
 physical examinations 211–212, 224, 560–561
 post-operative considerations 567–568
 postrenal examinations 212
 pre-operative considerations 561–562
 prerenal examinations 211–212
 primary renal examinations 212
 procedural considerations 564–567, 564f, 566f
 prognosis 229, 233, 236, 239, 242, 567–568
 pyelograms 219–220, 219f
 pyelonephritis 239
 radiography 217
 renal biopsies 219–220
 sternal recumbency 565–566
 surgery 560–568
 sutures 562–565
 tests 560–561, 568
 treatments 211–222, 224–242
 tru-cut biopsies 220–221
 ultrasound 216–217
 unique features in cats 211, 223, 560
 upper surgery overview 568
 ureteral obstruction 230–233, 560, 568
 ureteral tear 233–234
 ureters 223, 227, 231–234, 236, 239
 urethra 212, 223–240
 urethral catheters 212–213, 227, 525, 535–537
 urethral obstruction 225–229, 560–562, 567–568
 urethral tear 229–229
 urethrostomy 560–568, 563f
 urinalysis 214–215, 560–561, 568
 urinary tract disease 560–562, 568
 urine culture and sensitivity 215
 urine specific gravity 223–224, 230, 237, 240
 uroliths 560–564, 567–568
 uroperitoneum 191–192, 234–236, 560–562, 564, 567–568
 Ursodeoxycholic acid 199
 USG *see* urine specific gravity
 Uterine inertia 401
 Uterine pathologies 406–412
 Uterine prolapse 408–409
 Uterine rupture 401, 403, 406–407, 412, 577
 Uterine torsion 409–410, 409b, 410f
- V**
- Vagal maneuvers 169, 172
 Vaginal cytology 399, 400f, 406
- Vascular access 9, 13, 187, 526–528
 Vascular accidents 278–279
 Vascular cut-down procedures 527–528
 Vascular disease 294
 Vascular disorders 288
 Vascular volume 56, 75, 76, 341, 373
 Vasopressin 13, 23, 425
 Vasopressors 50
 Venlafaxine 507
 Venom
 environmental emergencies 509, 517–522
 insect bites/stings 509, 519–522
 peripheral nervous system 295
 snakebites 509, 517–519
 toxicological emergencies 505, 505b
 Venous access 9, 13, 59, 187, 424, 526–528
 Venous blood gas analysis 27
 Venous drainage 261
 Ventilation
 cardiopulmonary resuscitation 13, 16
 neurologic emergencies 260
 pediatric emergencies 425
 respiratory emergencies 96, 98–99
 seizures 266
 Ventricular cardiomyopathy 153, 155
 Ventricular fibrillation 15–16
 Ventricular premature complex (VPC) 171–172
 Ventricular tachycardias 169–174, 173t, 359–360
 cardiac diseases 154, 157–159
 cardiac emergencies 146–149
 electrocardiograms 529–530
 electrolyte disorders 388–389
 Verapamil 386, 395, 487
 Vertebral heart score (VHS) 97f
 Vertebral heart size 96
 Vestibular ataxia 257–258, 277
 Vestibular disease 271, 277–278
 Vestibulocochlear nerve 255
 Veterinary canned diets 91
 Veterinary liquid diets 91
 VetStarch 37, 40, 76–77
 VHS *see* vertebral heart score
 Viability assessments 553–554
 Vincristine 314, 316
 Viral infections
 lower airway diseases 122
 pediatric emergencies 421, 422
 pulmonary parenchymal disease 132
 shock 21
 Visceral pain 64
 Viscoelastic coagulation assays 308
- Vitamin B1 deficiency 271, 273–275, 279
 Vitamin B12 181
 Vitamin D 383, 489–490, 489b
 Vitamin K₁ 140, 199
 Vitamin K deficiency 317–318
 Volatile anesthetics 45, 60–61, 60t
 Voluntary motor emergencies 283–284
 Vomiting 200, 236
 Von Willebrand disease (vWD) 314, 317
 VPC *see* ventricular premature complex
- W**
- Waiting room triage
 capsule history 3
 cardiovascular system 3
 critically ill cats 2–4, 2b
 neurologic system 3
 physical examinations 3
 rapid physical examinations 3–4
 respiratory emergencies 93
 respiratory system 3
 steps in 3
 urinary tract system 3
 Warfarin 167, 311, 315, 318, 485
 Warming, rewarming 22–23, 23f, 513–515, 516
 Wasp stings 519–520
 Water moccasin bites 517–518
 Waxy casts 215
 Weight, anesthesia 34, 36
 Western coral snake bites 518–519
 Wheezing 98–99
 White blood cell counts 21, 37, 102, 325
 Whole-body plethysmography 124
 Widow spider bites 505, 505b, 509, 521–522
 Wind up, pain 64
 Withdrawal reflexes 284, 285t
 Wood's lamp evaluation 457–458, 466, 476
 Wounds
 acute abdomen 193
 reconstructive emergency surgery 582–589
 wound-soaker catheters 71–72
 Wrapping cats in towels 545–546, 545f
- X**
- Xylazine 267, 403, 481, 578
- Y**
- Yellow jacket stings 519–520
- Z**
- Zinc toxicity 339–340
 Zolazepam 59

